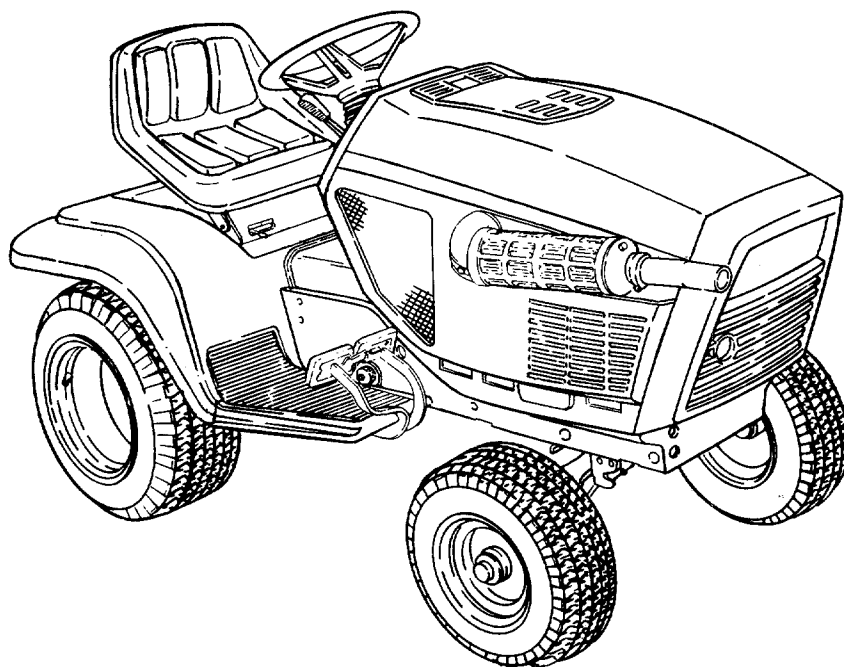


Cub Cadet[®]

Power Equipment

Owner's Manual



SUPER GARDEN TRACTOR

**Model Number
1782**

**Important:
Read Safety Rules and Instructions Carefully**

Thank you for purchasing an American-built product

CUB CADET CORPORATION • P.O. BOX 368023 • CLEVELAND, OHIO 44136-9723

LIMITED WARRANTY

**TWO-YEAR RESIDENTIAL
ONE-YEAR COMMERCIAL**

Proper maintenance of your Cub Cadet equipment is the owner's responsibility. Follow the instructions in your owner's manual for correct lubricants and maintenance schedule. Your Cub Cadet dealer carries a complete line of quality lubricants and filters for your equipment's engine, transmission, chassis and attachments.

RIDING MOWERS, LAWN TRACTORS, GARDEN TRACTORS, CUB CADET ATTACHMENTS AND HOME MAINTENANCE PRODUCTS

This limited warranty for residential users, covers any defect in materials or workmanship in your Cub Cadet equipment for two years from the date of purchase for the first user purchaser.

We will replace or repair any part or parts without charge through your authorized Cub Cadet dealer.

Batteries have a one-year prorated limited warranty with 100% replacement during the first three months.

V-belts for either the traction drive or any attachments are covered for one year only.

Cub Cadet equipment used commercially is warranted for one year only.

(Commercial use is defined as either having hired operators or used for income producing purpose.)

ITEMS NOT COVERED

The warranty does not cover routine maintenance items such as lubricants, filters (oil, fuel, air and hydraulic), cleaning, tune-ups, brake and/or clutch inspection, adjustments made as part of normal maintenance, blade sharpening, set-up, abuse, accidents and normal wear. It does not cover incidental costs such as transporting your equipment to and from the dealer, telephone charges or renting a product temporarily to replace a warranted product.

There is no other express warranty.

HOW TO OBTAIN SERVICE

Contact your authorized Cub Cadet servicing dealer who sold you your Cub Cadet equipment. If this dealer is not available, see the Consumer Yellow Pages under "lawn mowers" for the name of a dealer near you.

If you need further assistance in finding an authorized Cub Cadet servicing dealer, contact:

**Cub Cadet Corporation
Post Office Box 368023
Cleveland, Ohio 44136**

HOW DOES STATE LAW APPLY?

This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

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WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.



WARNING

This unit is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester is used, it should be maintained in effective working order by the operator.

In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. A spark arrester muffler is available at your nearest engine authorized service center.

IMPORTANT

SAFE OPERATION PRACTICES



THIS SYMBOL POINTS OUT IMPORTANT SAFETY INSTRUCTIONS WHICH, IF NOT FOLLOWED, COULD ENDANGER THE PERSONAL SAFETY AND/OR PROPERTY OF YOURSELF AND OTHERS. READ AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL BEFORE ATTEMPTING TO OPERATE YOUR UNIT. WHEN YOU SEE THIS SYMBOL –  **HEED ITS WARNING.**



DANGER:

Your lawn mower was built to be operated according to the rules for safe operation in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in injury. This lawn mower is capable of amputating hands and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury or death.



I. GENERAL OPERATION

1. Read, understand and follow all instructions in the manual and on the machine before starting. Keep this manual in a safe place for future and regular reference and for ordering replacement parts.
2. Only allow responsible individuals familiar with the instructions to operate the machine. Know controls and how to stop the machine quickly.
3. Do not put hands or feet under cutting deck or near rotating parts.
4. Clear the area of objects such as rocks, toys, wire, etc. which could be picked up and thrown by the blade. A small object may have been overlooked and could be accidentally thrown by the mower in any direction and cause injury to you or a bystander. To help avoid a thrown objects injury, keep children, animals, bystanders and helpers at least 75 feet from the mower while it is in operation. Always wear safety glasses with

side shields or safety goggles during operation or while performing an adjustment or repair, to protect eyes from foreign objects. Stop the blade(s) when crossing gravel drives, walks or roads.

5. Be sure the area is clear of other people before mowing. Stop machine if anyone enters the area.
6. Never carry passengers.
7. Disengage blade(s) before shifting into reverse and backing up. Always look down and behind before and while backing.
8. Be aware of the mower and attachment discharge direction and do not point it at anyone. Do not operate the mower without either the entire grass catcher or the chute guard in place.
9. Slow down before turning. Operate the machine smoothly. Avoid erratic operation and excessive speed.
10. Never leave a running machine unattended. Always turn off blade(s), place transmission in neutral, set park brake, stop engine and remove key before dismounting.
11. Turn off blade(s) when not mowing.
12. Stop engine and wait until blade(s) comes to a complete stop before (a) removing grass catcher or unclogging chute, or (b) making any repairs, adjusting or removing any grass or debris.
13. Mow only in daylight or good artificial light.
14. Do not operate the machine while under the influence of alcohol or drugs.
15. Watch for traffic when operating near or crossing roadways.
16. Use extra care when loading or unloading the machine into a trailer or truck. This unit should not be driven up or down a ramp onto a trailer or truck under power, because the unit could tip over causing serious personal injury. The unit must be pushed manually on a ramp to load or unload properly.
17. Never make a cutting height adjustment while the engine is running if operator must dismount to do so.
18. Wear sturdy, rough-soled work shoes and close-fitting slacks and shirts. Do not wear loose fitting clothes or jewelry. They can be caught in moving parts. Never operate a unit in bare feet, sandals or sneakers.
19. Check overhead clearance carefully before driving under power lines, wires, bridges or low hanging tree branches, before entering or leaving buildings, or in any other situation where the

operator may be struck or pulled from the unit, which could result in serious injury.

20. Disengage all attachment clutches, thoroughly depress the brake pedal and shift into neutral before attempting to start engine.
21. Your mower is designed to cut normal residential grass of a height no more than 10". Do not attempt to mow through unusually tall, dry grass (e.g. pasture) or piles of dry leaves. Debris may build up on the mower deck or contact the engine exhaust presenting a potential fire hazard.



II. SLOPE OPERATION

Slopes are a major factor related to loss of control and tip-over accidents which can result in severe injury or death. **All** slopes require extra caution. If you cannot back up the slope or if you feel uneasy on it, do not mow it.

For your safety, use the slope gauge included as part of this manual to measure slopes before operating this unit on a sloped or hilly area. If the slope is greater than 15° as shown on the slope gauge, do not operate this unit on that area or serious injury could result.

DO:

Mow up and down slopes, not across.

Remove obstacles such as rocks, limbs, etc.

Watch for holes, ruts or bumps. Uneven terrain could overturn the machine. **Tall grass can hide obstacles.**

Use slow speed. Choose a low enough gear so that you will not have to stop or shift while on the slope. Always keep machine in gear when going down slopes to take advantage of engine braking action.

Follow the manufacturer's recommendations for wheel weights or counterweights to improve stability.

Use extra care with grass catchers or other attachments. These can change the stability of the machine.

Keep all movement on the slopes **slow and gradual**. Do not make sudden changes in speed or direction. Rapid engagement or braking could cause the front of the machine to lift and rapidly flip over backwards which could cause serious injury.

Avoid starting or stopping on a slope. If tires lose traction, disengage the blade(s) and proceed slowly **straight** down the slope.

DO NOT:

Do not turn on slopes unless necessary; then, turn slowly and gradually downhill, if possible.

Do not mow near drop-offs, ditches or embankments. The mower could suddenly turn over if a wheel is over the edge of a cliff or ditch, or if an edge caves in.

Do not mow on wet grass. Reduced traction could cause sliding.

Do not try to stabilize the machine by putting your foot on the ground.

Do not use grass catcher on steep slopes.



III. CHILDREN

Tragic accidents can occur if the operator is not alert to the presence of children. Children are often attracted to the machine and the mowing activity. **Never** assume that children will remain where you last saw them.

1. Keep children out of the mowing area and in watchful care of an adult other than the operator.
2. Be alert and turn machine off if children enter the area.
3. Before and when backing, look behind and **down** for small children.
4. Never carry children. They may fall off and be seriously injured or interfere with safe machine operation.
5. Never allow children under 14 years old to operate the machine. Children 14 years and over should only operate machine under close parental supervision and proper instruction.
6. Use extra care when approaching blind corners, shrubs, trees or other objects that may obscure your vision of a child or other hazard.
7. Remove key when machine is unattended to prevent unauthorized operation.



IV. SERVICE

1. Use extreme care in handling gasoline and other fuels. They are extremely flammable and the vapors are explosive.
 - A. Use only an approved container.
 - B. Never remove fuel cap or add fuel with the engine running. Allow engine to cool at least two minutes before refueling.
 - C. Replace fuel cap securely and wipe off any spilled fuel before starting the engine as it may cause a fire or explosion.
 - D. Extinguish all cigarettes, cigars, pipes and other sources of ignition.
 - E. Never refuel the machine indoors because fuel vapors will accumulate in the area.
 - F. Never store the fuel container or machine inside where there is an open flame or spark, such as a gas hot water heater, space heater or furnace.
2. Never run a machine inside a closed area.
3. To reduce fire hazard, keep the machine free of grass, leaves or other debris build-up. Clean up oil or fuel spillage. Allow machine to cool at least 5 minutes before storing.
4. Before cleaning, repairing or inspecting, make certain the blade and all moving parts have stopped. Disconnect the spark plug wire, and keep the wire away from the spark plug to prevent accidental starting.
5. Check the blade and engine mounting bolts at frequent intervals for proper tightness. Also visually inspect blade for damage (e.g., excessive wear, bent, cracked). Replace with blade which meets original equipment specifications.
6. Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition.
7. Never tamper with safety devices. Check their proper operation regularly. Use all guards as instructed in this manual.
8. After striking a foreign object, stop the engine, remove the wire from the spark plug and thoroughly inspect the mower for any damage. Repair the damage before restarting and operating the mower.
9. Grass catcher components are subject to wear, damage and deteriorate, which could expose moving parts or allow objects to be thrown. For your safety protection, frequently check components and replace with manufacturer's recommended parts when necessary.
10. Mower blades are sharp and can cut. Wrap the blade(s) or wear gloves and use extra caution when servicing blade(s).
11. Check brake operation frequently. Adjust and service as required.
12. Muffler, engine and belt guards become hot during operation and can cause a burn. Allow to cool down before touching.
13. Do not change the engine governor settings or overspeed the engine. Excessive engine speeds are dangerous.
14. Observe proper disposal laws and regulations. Improper disposal of fluids and materials can harm the environment and the ecology.

- A. Prior to disposal, determine the proper method to dispose of waste from your local Environmental Protection Agency. Recycling centers are established to properly dispose of materials in an environmentally safe fashion.
- B. Use proper containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from

them. Properly dispose of the containers immediately following the draining of fluids.

- C. DO NOT pour oil or other fluids into the ground, down a drain or into a stream, pond, lake or other body of water. Observe Environmental Protection Agency regulations when disposing of oil, fuel, coolant, brake fluid, filters, batteries, tires and other harmful waste.



OWNER'S
MANUAL



SAFETY LABEL



WARNING - YOUR RESPONSIBILITY

Restrict the use of this power machine to persons who read, understand and follow the warnings and instructions in this manual and on the machine.

PRODUCT GRAPHICS

Keep safety product graphics (decals) clean. Replace any safety graphic that is damaged, destroyed, missing, painted over or can no longer be read. Replacement safety graphics are available through your dealer.

1 LOW

2

3

4

5

6

7

8 HIGH

HEIGHT INDICATOR

HYDRAULIC LIFT LEVER
PUSH TO LOWER
PULL TO RAISE

DOWN STOP ADJUSTMENT
HIGHER
LOWER
REFER TO OPERATOR'S MANUAL

IGNITION
OFF
ON
GLO-PLUG START

PTO SWITCH
OFF
START
PULL OUT
RUN
PTO SWITCH MUST BE IN OFF POSITION BEFORE STARTING UNIT AND BEFORE SHIFTING TRACTOR INTO REVERSE.
TO START THE FRONT PTO, PULL KNOB OUT AND LIFT UP INCHES. ENGAGE AND WILL RETRACT INTO RUN POSITION.
POSITION AT WHICH PTO WILL DISengage TO REACTIVATE PTO, PULL KNOB OUT AND LIFT UP INTO START POSITION.

BRAKE LOCK
NOTE: IF THE BRAKE LOCK IS DISengaged AND THE OPERATOR LEAVES THE SEAT WHILE THE ENGINE IS RUNNING, THE ENGINE WILL SHUT OFF.

BRAKE PEDAL
NEUTRAL POSITION
BRAKE POSITION

STARTING INSTRUCTIONS
1. BE FAMILIAR WITH CONTROLS BEFORE STARTING ENGINE AND OPERATING. SE IN OPERATOR'S POSITION WITH THE THROTTLE CONTROL LEVER IN NEUTRAL, PTO SWITCH OFF AND BRAKE RELEASED.
2. MOVE THE THROTTLE CONTROL LEVER FORWARD TO THE START (ARROW) POSITION. NEVER START THE ENGINE AT FULL THROTTLE.
3. TURN THE IGNITION KEY TO THE GLO-PLUG POSITION UNTIL THE GLO-PLUG INDICATOR LAMP SHUTS OFF.
4. NOTE: IF ENGINE IS WARM, STOP MAY BE BYPASSED.
5. TURN KEY TO START POSITION. WHEN ENGINE STARTS, RELEASE KEY. KEY WILL RETRACT TO OFF POSITION.
6. THROTTLE SHOULD REMAIN IN START POSITION FOR APPROXIMATELY 1 MINUTE FOR PROPER ENGINE WARM UP.
7. TO SHUT OFF:
1. PLACE THE SPEED CONTROL LEVER IN NEUTRAL, ENGAGE THE BRAKE LOCK AND RETURN PTO SWITCH TO THE OFF POSITION.
2. MOVE THE THROTTLE CONTROL LEVER TO THE SLOW (IDLE) POSITION FOR APPROXIMATELY 1 MINUTE. TURN THE IGNITION KEY TO THE OFF POSITION.

WARNING

AVOID SERIOUS INJURY OR DEATH READ OPERATOR'S MANUAL

- GO UP AND DOWN SLOPES, NOT ACROSS. • AVOID SUDDEN TURNS.
- DO NOT OPERATE THE UNIT WHERE IT COULD SLIP OR TIP.
- IF MACHINE STOPS GOING UPHILL, STOP PTO AND BACK DOWNHILL SLOWLY.
- DO NOT MOW WHEN CHILDREN OR OTHERS ARE AROUND. • NEVER CARRY CHILDREN.
- LOOK DOWN AND BEHIND BEFORE AND WHILE BACKING.
- KEEP SAFETY DEVICES (GUARDS, SHIELDS AND SWITCHES) IN PLACE AND WORKING.
- REMOVE OBJECTS THAT COULD BE THROWN BY THE BLADE(S).
- KNOW LOCATION AND FUNCTION OF ALL CONTROLS.
- BE SURE BLADE(S) AND ENGINE ARE STOPPED BEFORE PLACING HANDS OR FEET NEAR BLADE(S).
- BEFORE LEAVING OPERATOR'S POSITION, DISengage PTO, PLACE THE SHIFT LEVER IN NEUTRAL, ENGAGE BRAKE LOCK, SHUT ENGINE OFF AND REMOVE KEY.

TURNING BRAKE INSTRUCTIONS

- LATCH BRAKE PEDALS TOGETHER EXCEPT FOR TILLAGE OPERATION.
- LATCH BRAKE PEDALS TOGETHER FOR HIGH SPEED OR ROAD TRAVEL.
- LATCH BRAKE PEDALS TOGETHER BEFORE SETTING BRAKE LOCK.

BRAKE PEDAL LATCH PEDALS LATCHED TOGETHER

FOR SEPARATE BRAKE PEDAL OPERATION

GENERAL SAFETY INSTRUCTIONS CAUTION -
LOCATED ON THE FRAME COVER

TO THE OWNER

Assembled in this manual are operation, lubrication and maintenance instructions for the *Cub Cadet* 1782 tractor. The material has been prepared in detail to help you better understand the correct care and efficient operation of your tractor. Before you operate the tractor, study this manual carefully. Additional copies may be ordered from your dealer at a nominal price.

Your local authorized dealer is interested in the performance you receive from your tractor. He has factory-trained servicemen, informed in the latest method of servicing tractors, modern tools, and original-equipment service parts which assure proper fit and good performance.



CAUTION

DO NOT tow your tractor. Towing or pushing the tractor for more than a few feet may damage the hydrostatic drive unit.

The *Cub Cadet* 1782 tractor has a hydrostatic drive unit and will require minimum service if recommended operation and maintenance procedures are followed.

To obtain top performance and assure economical operation the tractor should be inspected, depending on its use, periodically, or at least once a year, by your authorized dealer.

When in need of parts, always specify the model, chassis, and engine serial numbers, including the prefix and suffix letters. Write these serial numbers in the space provided on this page.

Should you have difficulties with the unit, consult your authorized dealer. **UNDER NO CIRCUMSTANCES SHOULD YOU ATTEMPT TO SERVICE THESE UNITS YOURSELF.** Only your dealer is authorized to repair or replace units on this drive under the terms of the warranty. Should you desire additional information not found in this manual, contact your authorized *Cub Cadet* dealer.

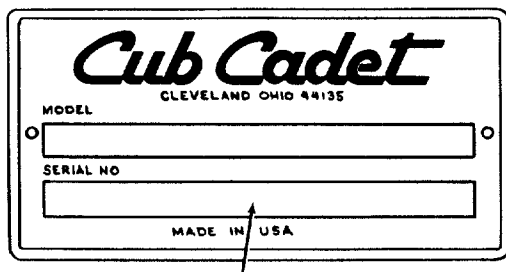
SERIAL NUMBER LOCATION



NOTE

LEFT and RIGHT indicate the left and right sides of the tractor when facing forward in the driver's seat. Reference to FRONT indicates grille end of the tractor; to REAR the drawbar end.

Chassis serial number plate is located near left rear fender. (See Figure 1.)



CHASSIS SERIAL NUMBER

Figure 1

Engine serial number is located on the left hand, forward part of engine at engine mounting plate. (See Figure 2.)

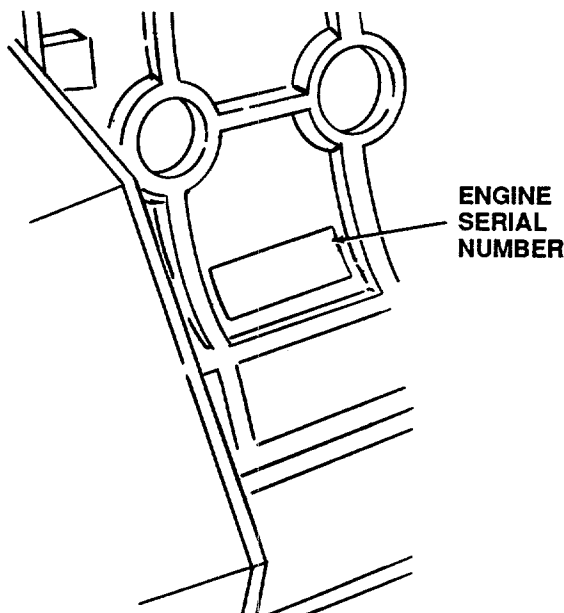


Figure 2

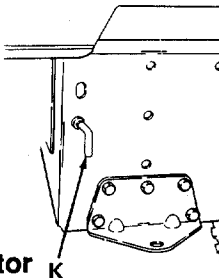
MODEL _____

DELIVERY DATE _____

SECTION I. CONTROLS

Your *Cub Cadet* Tractor has been safety engineered. Thoroughly acquaint yourself with all the instruments

and controls before attempting to start or operate the tractor.

- A. Low Oil Indicator
 - B. Low Fuel Indicator
 - C. Amp Indicator
 - D. Temp Indicator
 - E. Hour Meter
 - F. Preheat Indicator
 - G. Reverse "R" Indicator
 - H. Disengage PTO Indicator
 - I. Depress Left Pedal Indicator
 - J. Speed Control Lever
 - K. Down Stop Adjustment Rod
 - L. Turning Brake Pedals
 - M. Turning Brake Lock
 - N. Tilt Wheel Release Lever
 - O. Ignition Switch
 - P. Light Switch
 - Q. Lift Height Indicator
 - R. Seat Adjustment Lever (Not Shown)
 - S. Single Pedal Brake Lock
 - T. Single Brake Pedal
 - U. Hydraulic Lift Control Lever
 - V. Throttle Control Lever
 - W. Front Power Take-Off (PTO) Control Switch
 - X. Fuses (Not Shown)
 - Y. Safety Interlock Switches (Not Shown)
- 

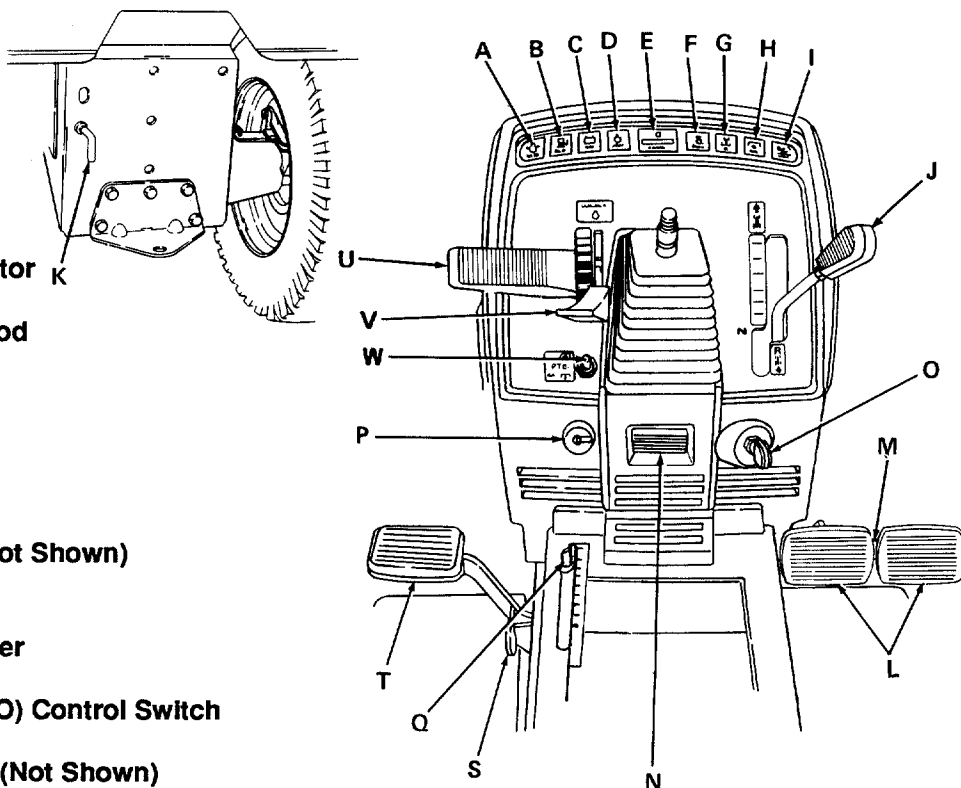


Figure 3

A. LOW OIL INDICATOR

This indicator will illuminate when the oil level is low.



CAUTION

When "LOW OIL" indicator illuminates, stop the tractor and check the oil level. Continuing to operate the tractor could result in severe damage to the engine.

B. LOW FUEL INDICATOR

This indicator will illuminate when the fuel level in the fuel tank is low.

C. AMP INDICATOR

This indicator will illuminate when a problem exists with the charging system or the battery. If this indicator illuminates, stop the tractor and contact your *Cub Cadet Dealer*.

D. TEMP INDICATOR

This indicator will illuminate if the engine is overheating.



CAUTION

When "TEMP" indicator illuminates, immediately stop the tractor and allow the engine to cool. Then check the coolant level in the radiator and examine the radiator screen for accumulated debris.

E. HOUR METER

The hour meter indicates the actual hours of engine operation. This enables the operator to determine when lubrication, change of oil or periodic inspections are necessary. It also provides a means of computing cost of specific jobs. The hour meter operates whenever the engine is running or the ignition key is in the "ON" position.

F. PREHEAT INDICATOR

This indicator is used to assist in cold starting of the tractor.

G. REVERSE "R" INDICATOR

This indicator is illuminated only when attempting to start tractor while it is in reverse. The reverse "R" indicator must be off before the tractor can be started.

H. DISENGAGE PTO INDICATOR

This indicator will illuminate if an attempt is made to start the tractor with the PTO switch engaged. This indicator must be off before the tractor can be started. When starting the tractor, this indicator will briefly flash.

I. DEPRESS LEFT PEDAL INDICATOR

This indicator will illuminate when an attempt is made to start the tractor with the single brake pedal not fully depressed.

J. SPEED CONTROL LEVER



Do not rest your foot on the single brake pedal while driving the tractor as this would cause the speed control lever to return to the "N" position.

The lever is used to select any speed from a standstill "N" position to eight miles per hour in the forward direction and four miles per hour in the reverse direction.

Moving the speed control lever forward provides increased forward speed, and moving the lever rearward provides the reverse speeds. (See Figure 3.)

K. DOWN STOP ADJUSTMENT ROD

The down stop adjustment rod adjusts the downward travel of the lift shaft assembly which allows an attached mower deck to return to a preset height. (See Figure 4.)

With the implement at a desired height, turn the down stop adjustment rod clockwise until it stops turning freely. Turning the adjustment rod clockwise increases the preset height; turning counterclockwise lowers the preset height.



Be careful when turning the adjustment rod counterclockwise. It is possible to disengage the adjustment rod from the lift cam.

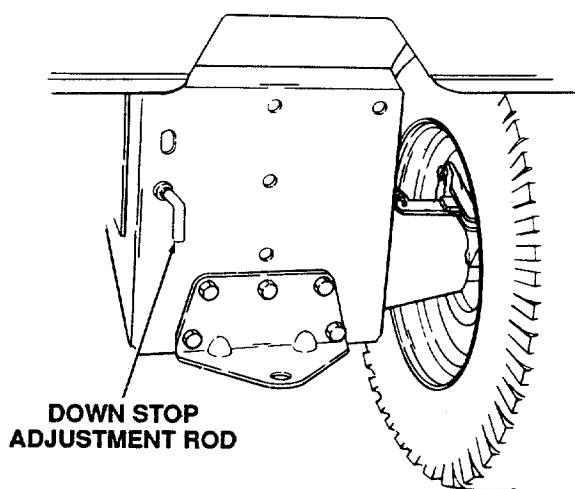


Figure 4

L. TURNING BRAKE PEDALS



CAUTION

Use the two turning brake pedals only at low speeds to maintain control of the tractor when using rear mounted equipment.

The two turning brake pedals are used for individual braking of the rear wheels to aid in turning the tractor in soft soil conditions. (See Figure 5.) Depress the outside turning brake pedal to slow or stop the right

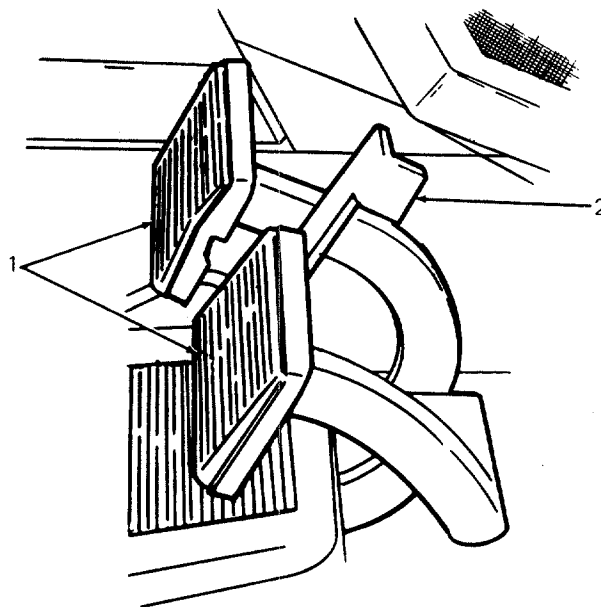


Figure 5

1. Turning Brake Pedals
2. Turning Brake Lock

rear tractor wheel; depress the inside turning brake pedal to slow or stop the left rear tractor wheel. The tractor will turn in the direction of the wheel that is slowed or stopped.

M. TURNING BRAKE LOCK



CAUTION

Turning brake pedals should not be used when mowing lawns. The wheel being braked may skid and cause lawn damage. Turning brake pedals should be locked together.



NOTE

Turning brake pedals must be latched together when operating the tractor in transport speeds.

The turning brake lock is located in the top edge of the outside turning brake pedal (see Figure 5) and is used to lock the two turning brake pedals together to provide simultaneous braking to both rear wheels when the turning brake pedals are depressed. To lock the pedals together, pivot the lock and engage it in the slot on the inside turning brake pedal. For individual brake action, pivot the lock into the storage slot in the outside turning brake pedal.

If the turning brake pedals are not locked together and the single brake pedal is used, only the left rear tractor wheel is slowed or stopped.

N. TILT WHEEL RELEASE LEVER

The tilt wheel release lever is used to adjust the steering wheel forward away from the operator or rearward towards the operator. Refer to **ADJUSTING THE STEERING WHEEL** in Section III.

O. IGNITION SWITCH

The ignition switch is a four-position switch. The ignition key is turned to "GLO-PLUG" position before it is turned to "START." Refer to "GLO-PLUG INSTRUCTIONS" on page 17 for explanation of this feature. Turn key to start position. When engine starts, release key. Key will retract to "ON" position. (See Figure 6.)

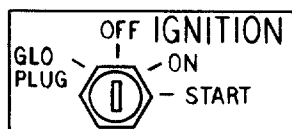


Figure 6



WARNING

Remove the key from the tractor when the tractor is not in use to prevent accidental starting and battery discharge.



NOTE

Under certain conditions it is possible for a diesel engine to start and run in a reverse condition.

P. LIGHT SWITCH

The lights are turned on and off by a toggle switch on the lower left hand side of the instrument panel. (See Figure 3.) Flip switch to the right for "ON", to the left for "OFF".

Q. LIFT HEIGHT INDICATOR

The lift height indicator will indicate the height of deck attachment when installed. (See Figure 7.)

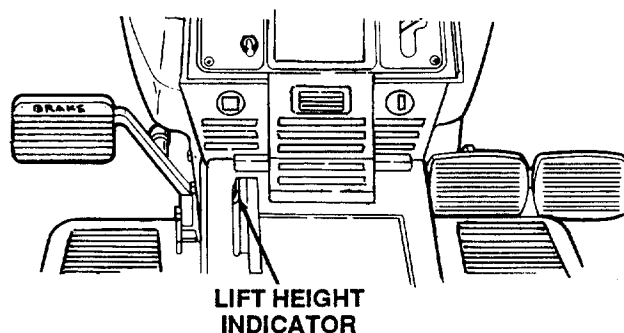


Figure 7

R. SEAT ADJUSTMENT LEVER

The seat adjustment lever is used to move the seat forward or rearward. Refer to **ADJUSTING THE SEAT** in Section III.

S. SINGLE PEDAL BRAKE LOCK



WARNING

The hydrostatic transmission will not hold the tractor on a hill. In a short period of time (depending on the steepness of the hill) the oil will drain from the transmission and allow the tractor to roll downhill. To avoid an accident and/or possible injury, engage the single pedal brake lock.

Always engage the single pedal brake lock when dismounting the tractor. To lock the brake, the turning

brake pedals must be locked together to provide braking to both rear wheels. Refer to "TURNING BRAKE LOCK." Depress single brake pedal and place the single pedal brake lock in the engaged position. (See Figure 8.) To disengage the lock, press down on the pedal, lift the lock up and place it in the disengaged position.

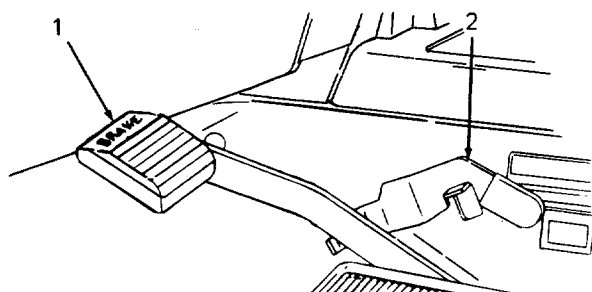


Figure 8

1. Single Brake Pedal
2. Single Pedal Brake Lock

T. SINGLE BRAKE PEDAL



NOTE

Do not rest your foot on the single brake pedal while driving the tractor as this would cause the speed control lever to return to the "N" position.

The single brake pedal must be pressed all the way down to activate the safety starting switch. When the single brake pedal is in the depressed position it automatically moves the speed control lever to the "N" position. (See Figure 8.)

U. HYDRAULIC LIFT CONTROL LEVER



NOTE

The engine must be running in order to operate the hydraulic lift.

The hydraulic lift control lever controls the raising and lowering of equipment used with the tractor, if installed. The control lever is spring loaded. To raise the equipment pull up the lever. To lower the equipment, push down on the lever. (See Figure 9.)

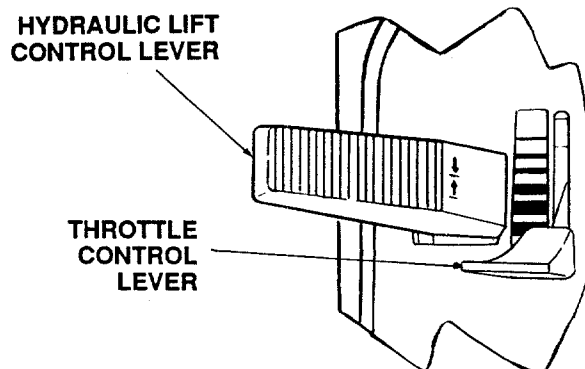


Figure 9

V. THROTTLE CONTROL LEVER

This lever controls the speed of the engine. When set in a given position, it will maintain a uniform engine speed. (See Figure 9.)



NOTE

When using power take-off operated equipment, best performance is achieved with the throttle lever in the "FAST" position.



This symbol shows slow position.



This symbol shows fast position.

W. FRONT POWER TAKE-OFF (PTO) CONTROL SWITCH

The power take-off (PTO) control switch, which is located on the left side of the instrument panel, operates an electric clutch. (See Figure 3.) This electric clutch controls the engagement ("ON") or disengagement ("OFF") of the front PTO.

X. FUSES

Two fuses are located under the hood. They are found on the right and left sides of the battery tray assembly. They are installed to protect the tractor's

electrical circuitry and components from damage caused by excessive amperage overload. (See Figure 10.) (Side panels removed for clarity.)

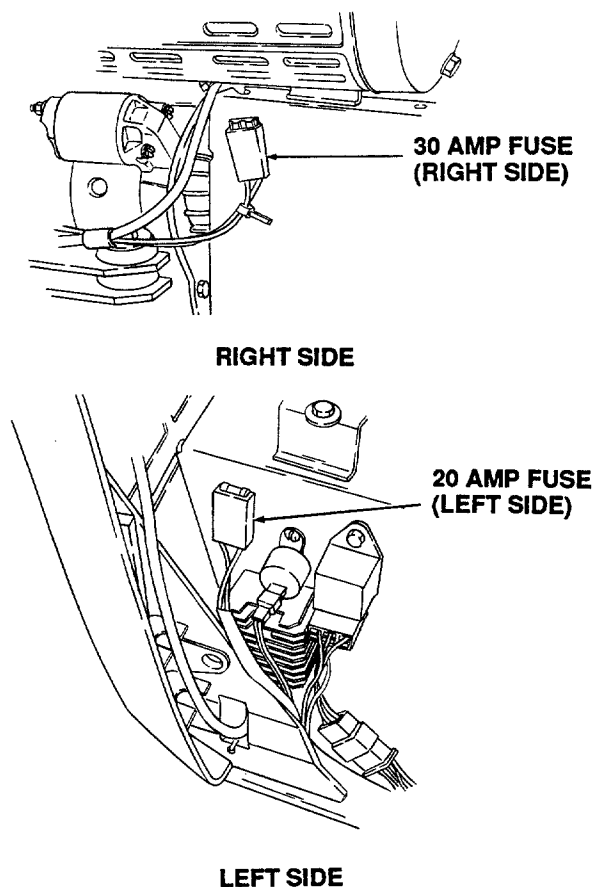


Figure 10

Y. SAFETY INTERLOCK SWITCHES

The safety interlock system prevents the engine from cranking or starting unless the single brake pedal is fully depressed, and the PTO switch is in the "OFF" position.

The safety interlock system will automatically shut off the engine if the operator leaves the seat before engaging the single pedal brake lock.

The safety interlock system will automatically disengage the PTO if the operator leaves the seat with the PTO in the "RUN" position, or the unit is shifted into reverse with the PTO in the "RUN" position. To reengage the PTO, place the speed control lever in neutral ("N"), move the PTO switch into the "OFF" position and then engage the PTO while seated.

FUEL TANK

The fuel tank is located in the rear of the tractor. The fuel tank filler cap is located on the left rear fender. The main fuel shut-off valves are located on the bottom (left and right sides) of the tank. These valves

control the flow of fuel to the engine. To open the valves turn the knobs counterclockwise until they stop. To close the valves turn the knobs clockwise until they are tight. (See Figure 11.)

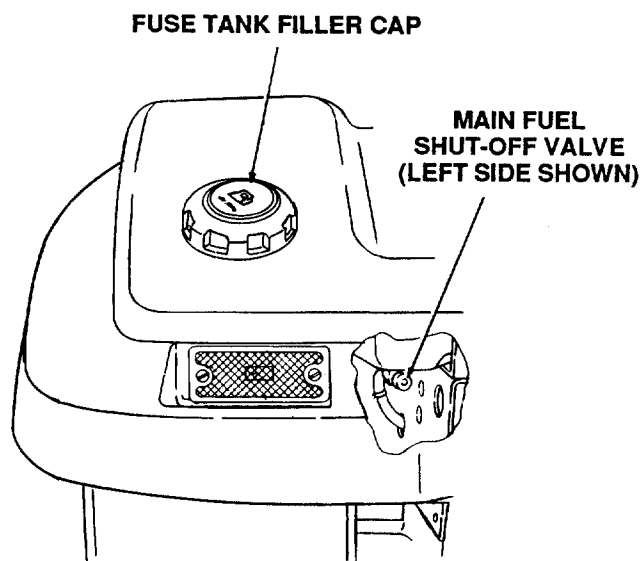


Figure 11

HOOD AND SIDE PANELS

The tractor hood is arranged to swing up and forward for easy access to the engine compartment. (See Figure 12.) Whenever engine maintenance is required, the side panels can be removed.

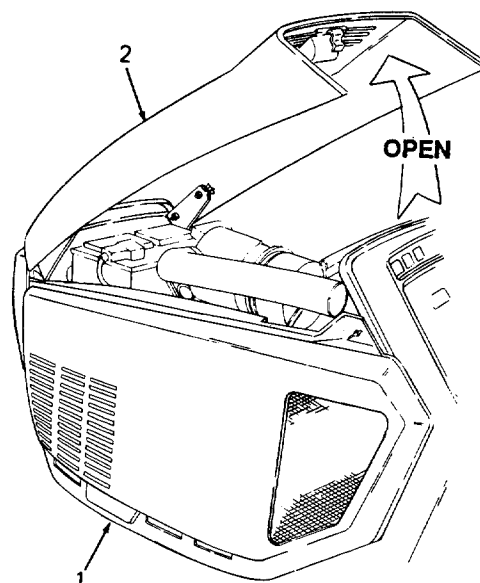


Figure 12

1. Side Panel (One On Each Side)
2. Hood

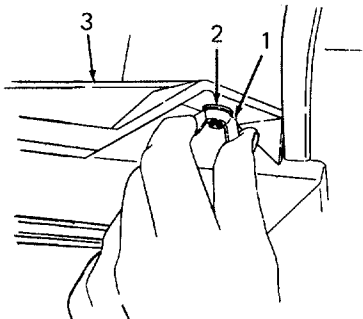


WARNING

To avoid burns from hot engine or muffler, remove side panels only when engine is cold.

To remove either right or left side panel, proceed as follows:

1. Engage the single pedal brake lock. Raise the hood. Refer to Figure 13 and at top rear of side panel remove wing nut and flat washer.



NOTE: LEFT SIDE PANEL SHOWN

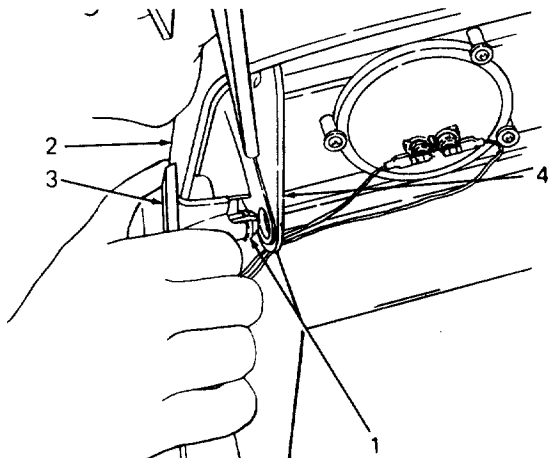
Figure 13

1. Wing Nut
 2. Flat Washer
 3. Side Panel
2. Loosen LEFT front side panel by applying pressure to side of grille and gently pulling on side panel until the snaps pop out of grille side flange. (See Figure 14.)



NOTE

Be sure both top and bottom snaps have popped out.

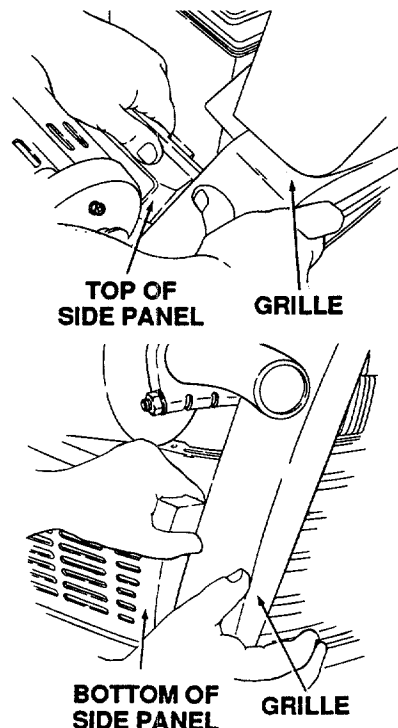


LEFT SIDE PANEL

Figure 14

1. Snap
2. Grille
3. Side Panel
4. Grille Side Flange

3. Loosen RIGHT front side panel by first popping the top snap out of the grille side flange. Then grasp front of panel below muffler and pull gently to remove bottom snap. (See Figure 15.)



TOP OF
SIDE PANEL GRILLE

BOTTOM OF
SIDE PANEL GRILLE

RIGHT SIDE PANEL

Figure 15

4. Locate the lock tab and dash panel lock in Figure 16.

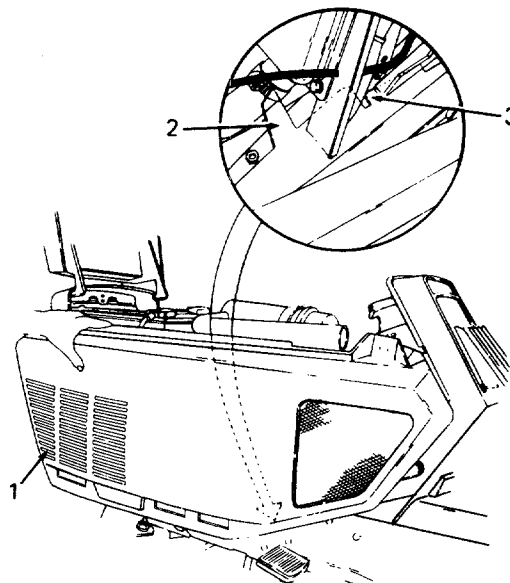
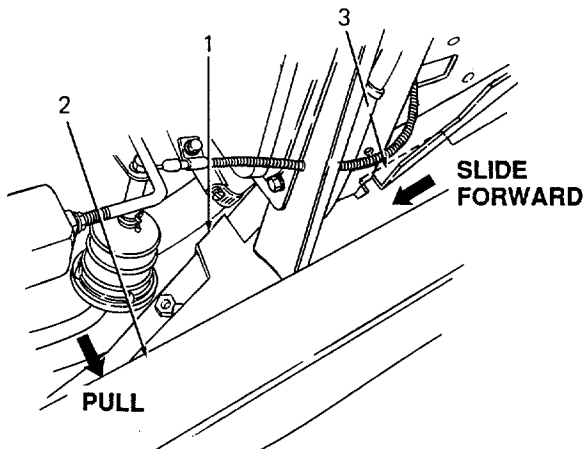


Figure 16

1. Side Panel
2. Lock Tab
3. Dash Panel Lock

5. Remove LEFT or RIGHT side panel as follows: Unseat lock tab by gently pulling front of side panel towards you. Then pull up and slide panel forward to disengage dash panel lock. (See Figure 17.)



NOTE: LEFT SIDE PANEL SHOWN

Figure 17

1. Lock Tab
2. Side Panel
3. Dash Panel Lock

To install panels:

1. Position right side panel with front cut out area placed behind the muffler as shown in Figure 18. Slide forward positioning panel on tractor and secure two front snaps.

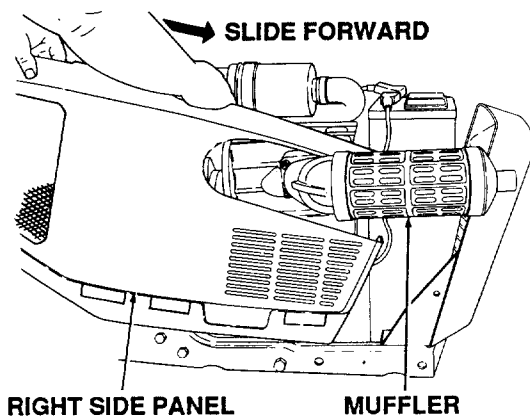
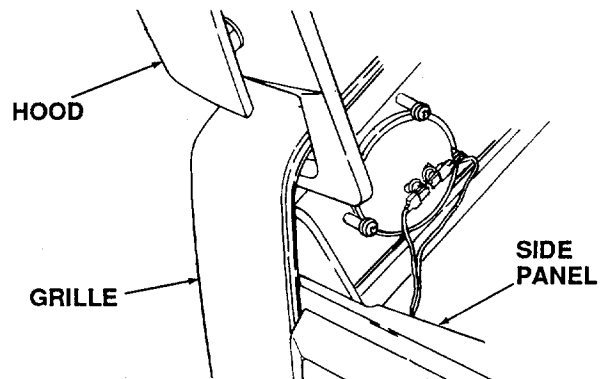


Figure 18

2. Position left side panel on tractor and secure two front snaps.



Make sure upper front corner of both side panels are inside lip on grille as shown in Figure 19.



NOTE: LEFT SIDE PANEL SHOWN

Figure 19

3. Grasp top center of panel as shown in Figure 20 and gently pull toward you in order to position mounting hole over stud.
4. Gently pull tip of dash panel toward you and push in and engage dash panel lock. (See Figure 21.)
5. Install flat washer and wing nut.

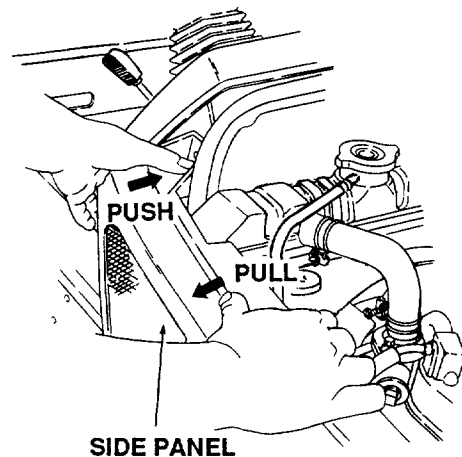


Figure 20

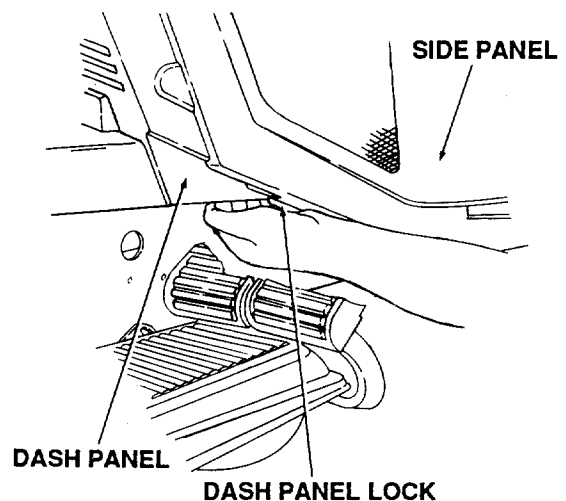


Figure 21

SECTION II. OPERATION



WARNING

RECEIVE INSTRUCTION - Read operator's manual. Learn to operate this machine SAFELY. Don't risk INJURY or DEATH.

1. Before starting engine or operation: Be familiar with controls. Be in operator's position with speed control lever in neutral, PTO turned off and single brake pedal depressed.
2. Keep shields in place. Keep away from moving parts.
3. NO RIDERS! Keep all people and pets a safe distance away. Look before backing up.
4. Don't point mower discharge at people.
5. Avoid slopes. Tractors can be rolled over.
6. Before leaving operator's position: Shut off PTO. Place speed control lever in neutral. Engage single pedal brake lock. Shut off engine. Remove ignition key. Wait for all movement to stop before servicing or cleaning.
7. Do not fill fuel tank when engine is running or while engine is hot. Tighten cap securely.

7. Adjust the seat and steering wheel for operator's maximum comfort, visibility and complete control of the tractor.
8. Remove the side panels and clean any accumulated grass and debris.
9. Clean the radiator screen.
10. Check radiator fluid level.
11. Make certain that the backside of the grille insert is clean and unobstructed. Push down on the top of the grille insert and pull forward as shown in Figure 22. Lift the grille insert up removing the tabs from the bottom of the grille housing. Remove by hand any accumulated grass and debris.
12. Refer to various sections of the Owner's Manual for additional information.

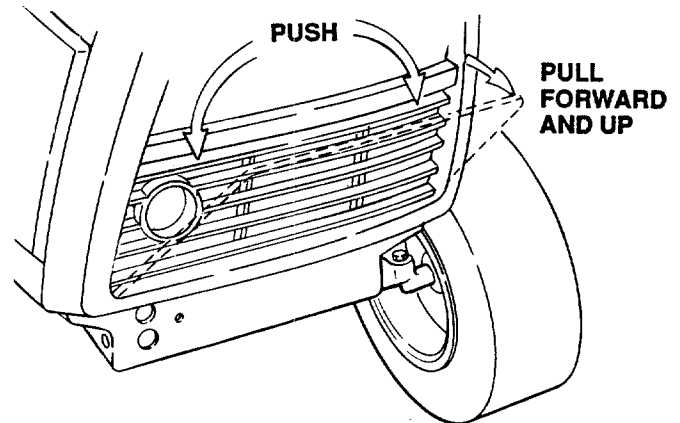


Figure 22

BEFORE OPERATING YOUR TRACTOR

1. Refer to "MAINTENANCE" and study this manual carefully. It has been prepared to help you operate and maintain your tractor with utmost efficiency.
2. Familiarize yourself with the operation of all the instruments and controls.
3. Fill the tank with No. 2-D diesel fuel only. Make sure before you fill the tank that the fuel is clean and fresh.
4. Check the engine and transmission oil levels.
5. Clean the air cleaner cup.
6. Check the tire inflation pressures.

STARTING THE ENGINE



WARNING

Do not operate tractor if the interlock system is malfunctioning because it is a safety device designed for protection.



WARNING

Operator must be seated before starting the tractor.

NOTE

This tractor is equipped with a safety interlock system for protection of the operator.

The safety interlock system prevents the engine from cranking or starting unless the single brake pedal is fully depressed and the PTO engagement switch is in the "OFF" position.

The safety interlock system will automatically shut off the engine if the operator leaves the seat before engaging the single pedal brake lock.

NOTE

The safety interlock system will automatically disengage the PTO if the operator leaves the seat with the PTO in the "RUN" position, or the unit is shifted into reverse with the PTO in the "RUN" position. To reengage the PTO, place the speed control lever in neutral ("N"), move the PTO switch into the "OFF" position and then engage the PTO while seated.

1. Be familiar with controls before starting engine and operating tractor. Be in operator's position with speed control lever in neutral, PTO switch off and single brake pedal depressed.

NOTE

The speed control lever will return to neutral when the single brake pedal is pressed all the way down, and the linkage is properly adjusted.

2. Move the throttle control lever forward to the "START" (midway) position. (Never start engine at full throttle.)
3. Turn the ignition key to the "GLO-PLUG" position until the GLO-PLUG indicator lamp shuts off. (Refer to GLO-PLUG INSTRUCTIONS on page 17.)

NOTE

If engine is warm, step 3 may be bypassed.

4. Turn key to start position. When engine starts, release key. Key will retract to "ON" position.

CAUTION

Do not operate the starter for more than 10 seconds at any one time. If the engine does not start within this time, turn the key "OFF" and wait a few minutes, they try again.

5. Throttle should remain in "START" position for approximately 5 minutes for proper engine warm up.

STOPPING THE ENGINE

CAUTION

Remove the key to prevent accidental starting and battery discharge if equipment is left unattended.

1. Place the speed control lever in neutral, engage the single pedal brake lock and return PTO switch to the "OFF" position.
2. Move the throttle control lever to the slow ("IDLE") position for approximately one minute.
3. Turn the ignition key to the "OFF" position. Remove key from ignition switch.

REVERSED ENGINE REVOLUTION AND REMEDIES

Reversed engine revolution must be stopped immediately since engine oil circulation is cut quickly, leading to serious engine trouble.

How to tell when the engine starts running backwards:

1. Lubricating oil pressure drops sharply. Oil pressure warning light will light and remain on.
2. Since the intake and exhaust sides are reversed, the sound of the engine changes, and exhaust gas will come out of the air cleaner.
3. A louder knocking sound will be heard when the engine starts running backward.

REMEDIES

1. Immediately turn the ignition key to the "OFF" position to stop the engine.
2. After stopping the engine, check the air cleaner, intake rubber tube and other parts and replace parts as needed.

GLO-PLUG INSTRUCTIONS

Ambient Temperature

Instructions

35°F and higher

Turn ignition switch key to "GLO-PLUG" until glo-plug indicator light is lit.

34°F and below

Turn ignition switch key to "GLO-PLUG" until glo-plug indicator light is lit. Return ignition switch key to "OFF," and repeat procedure once again.



NOTE

Unless turning brake pedals are needed for control in turning the tractor, they should be locked together at all times to provide simultaneous braking to both rear wheels.

1. Depress the single brake pedal, release the single pedal brake lock and let the pedal up. Move the throttle lever to the position where the engine operates best for the load to be handled.
2. Start the tractor in motion by moving the speed control lever slowly forward or rearward to desired speed.

DRIVING THE TRACTOR



WARNING

When the engine is off, the tractor will become very difficult to steer. This is because the engine must be on for the power steering to operate. Do not turn off engine until tractor comes to a complete stop or damage to equipment or injury to persons might occur.



CAUTION

Avoid sudden starts, excessive speed and sudden stops.



CAUTION

Do not leave the seat of the tractor without depressing the single brake pedal and engaging the single pedal brake lock. If leaving the tractor unattended, also turn the ignition key off and remove the key.



NOTE

Hydraulic power for the power steering will take priority over installed hydraulically driven accessories.



NOTE

When using power take-off operated equipment, best performance is achieved with the throttle lever in the "FAST" position.

DRIVING ON SLOPES

(Refer to "SLOPE GAUGE" on page 43 in order to help determine slopes where you may not operate safely.)



WARNING

Do not mow on inclines with a slope in excess of 15 degrees (a rise of approximately 2-1/2 feet every 10 feet). A tractor could overturn and cause serious injury.



WARNING

Operate tractor up and down slopes, never across slopes.



CAUTION

Always drive up or down the face of a slope. Do not drive so that the tractor may tip over sideways.

Before operating the tractor on any slope, walk the slope to look for possible hazards such as rocks, mounds, ruts, stumps or other surface irregularities which could cause an upset.

Back the tractor with implement up the steepest portion of each slope you intend to work. If the tractor cannot negotiate the slope in reverse, the slope is too steep to be worked.

Avoid turns when driving on a slope. If a turn must be made, turn down the slope. Turning up a slope greatly increases the chance of a roll over.

Avoid stopping when driving up a slope. If it is necessary to stop while driving up a slope, start up smoothly and carefully to reduce the possibility of flipping the tractor over backward.

STOPPING THE TRACTOR



CAUTION

Always engage single pedal brake lock, lower equipment and shut off engine before dismounting. Never try to start engine from ground.

Fully depress the single brake pedal. When the tractor has stopped, make sure the speed control lever is in the neutral ("N") position. Before dismounting always disengage the PTO switch, engage the single pedal brake lock and turn the ignition "OFF".

The turning brake pedals must be latched together to provide braking to both rear wheels. Latch turning brake pedals together before locking single brake pedal.

DRAWBAR

Drawbar equipment must be hitched to the tractor only at the hitch hole in the drawbar. (See Figure 23.)

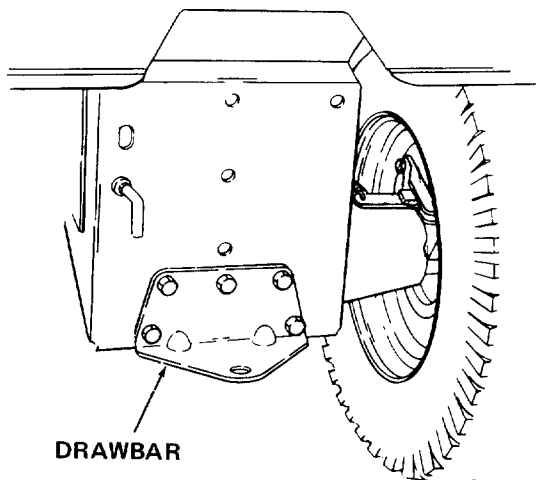


Figure 23

OPERATING THE FRONT POWER TAKE-OFF (PTO) CLUTCH



NOTE

Be certain to follow break-in instructions listed below.

1. Set the throttle lever to at least 3/4 speed.
2. Flip the toggle switch to the "RUN" (C) position. (See Figure 24.)
3. Advance throttle to operating speed (full speed).
4. The operator must remain in tractor seat at all times. If operator should leave tractor seat without turning off the power take-off switch, the PTO will automatically disengage.
5. PTO switch must be in the "OFF" (A) position when shifting the tractor into reverse or the PTO will shut off automatically. To reengage the PTO, shift unit into neutral. Move PTO switch to "OFF" (A) position. Then pull knob out and lift up to "START" (B) position and release.

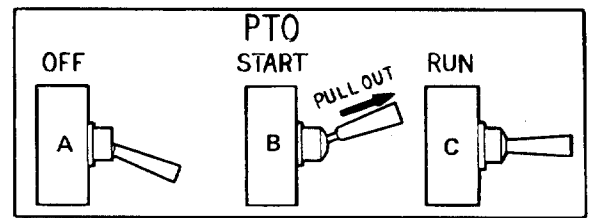


Figure 24

FRONT PTO CLUTCH BREAK-IN PROCEDURE

To break-in the components and increase the life of the clutch assembly, proceed as follows.

1. Attach mowing deck, snow thrower, etc. to the tractor.
2. Adjust the belt tension as recommended in attachment owner's manual.
3. Run at 50% throttle.
4. Engage and disengage the PTO five times without any load (not cutting grass, not blowing snow, etc.). Ten seconds on/ten seconds off.
5. Increase to 75% throttle.
6. Engage and disengage the PTO five times without any load (not cutting grass, not blowing snow, etc.). Ten seconds on/ten seconds off.

SECTION III. ADJUSTMENTS

ADJUSTING THE SEAT



WARNING

Do not adjust the seat when the tractor is moving. Adjusting the seat while the tractor is moving could cause the operator to lose control of the tractor.

Before starting the tractor, adjust the seat forward or rearward to the most comfortable driving position. To reposition the seat, move the seat adjustment lever (Figure 25) to the left and slide the seat forward or rearward. Release the adjustment lever when seat is comfortably positioned. Gently rock the seat forward and rearward once to be sure seat is locked in place.

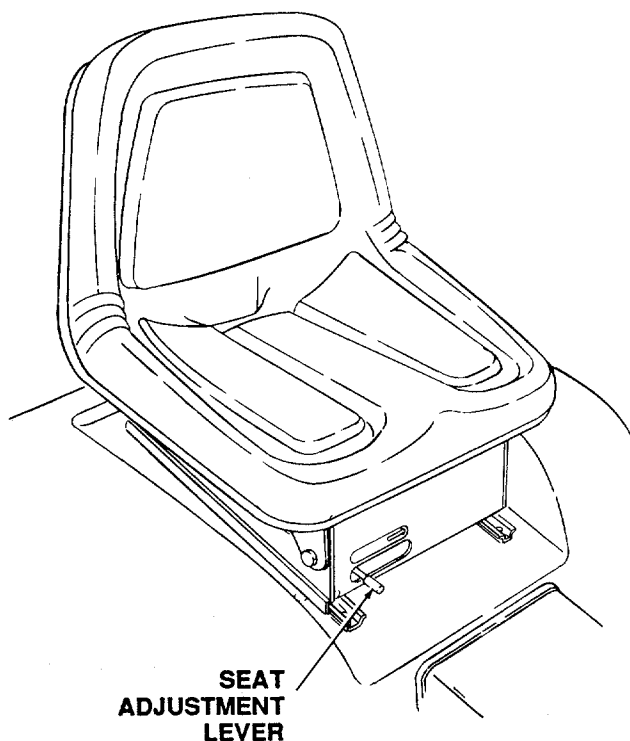


Figure 25

ADJUSTING THE STEERING WHEEL



WARNING

Do not adjust the steering wheel when the tractor is moving. Adjusting the steering wheel while the tractor is moving could cause the operator to lose control of the tractor.

Before starting the tractor, adjust the steering wheel forward or rearward to the most comfortable position. To position the steering wheel, push the tilt wheel release lever down, as shown in Figure 26, and move the steering wheel forward or rearward. Release the lever when the steering wheel is comfortably positioned. Gently push the steering wheel forward or rearward once to be sure wheel is locked in place. Make sure tilt wheel release lever is all the way up as shown in Figure 27.

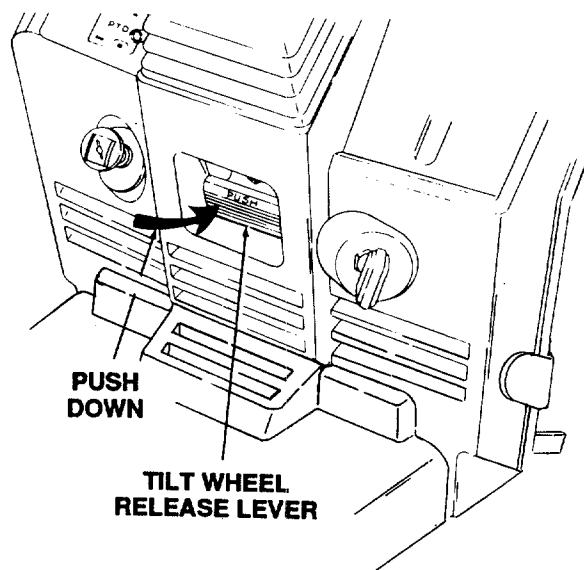


Figure 26

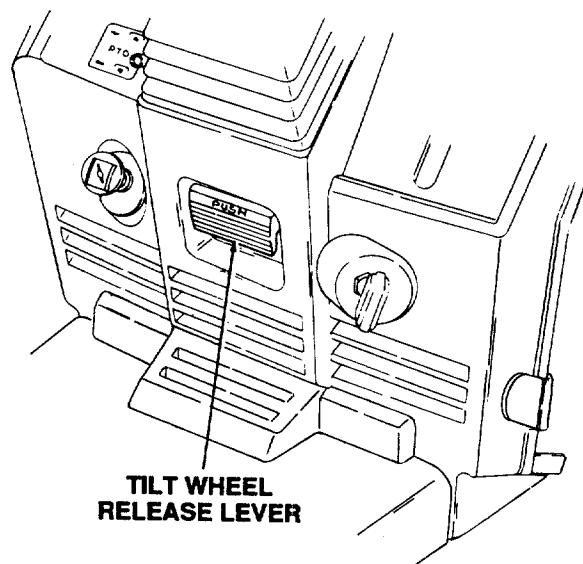


Figure 27

ADJUSTING THE POWER TAKE-OFF CLUTCH



WARNING

To avoid possible injury, move speed control lever into neutral, engage the single pedal brake lock and turn the ignition "OFF" before working on the machine.



WARNING

The clutch may be hot. Allow the engine and clutch to cool before adjusting the clutch.

The clutch is factory adjusted and should not require further adjustment under normal operating conditions. However, if the clutch fails to operate properly, check as follows:

Using a feeler gauge, check the air gap. (See Figure 28.) Insert feeler gauge into one of three access slots located around the outside of the brake plate. The air gap should be .017 inch. Adjust the self-locking nuts to obtain the proper clearance. Repeat the operation in all three access slots.

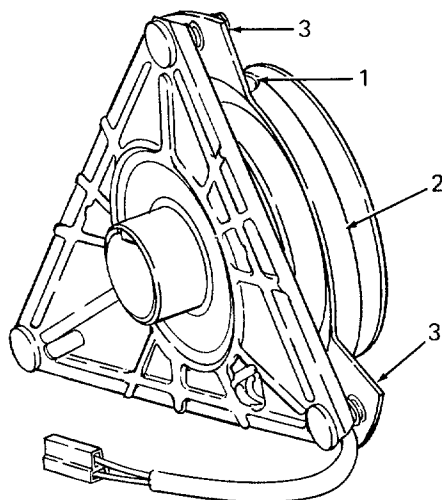


Figure 28

1. Access Slots (120° apart in 3 locations)
2. Brake Plate
3. Self-Locking Nuts

BRAKE ADJUSTMENT

During normal operation on this machine, the brakes are subject to wear and will require periodic examination and adjustment.

Brake adjustment check:

1. To check brake adjustment, place a 1 inch thick wood block between the single brake pedal and the brake lock tab (see Figure 29).
2. With the 1 inch thick wood block installed, the brake disc pads should be applying a light amount of friction against the brake disc rotor. If they are not, the brakes need adjustment (see Figure 30).

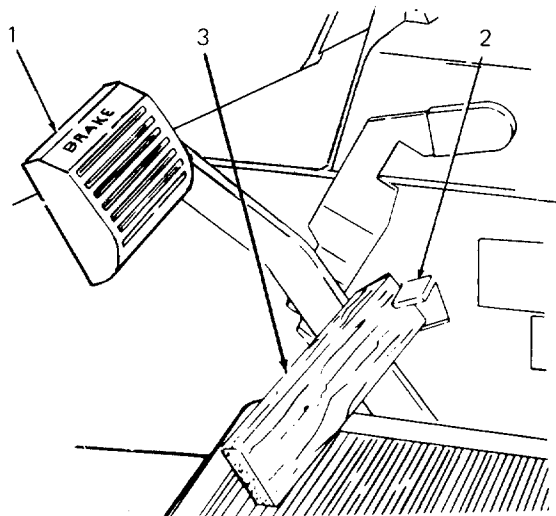


Figure 29

1. Single Brake Pedal
2. Brake Lock Tab
3. 1 Inch Thick Wood Block

Brake adjustment: (See Figure 30)

1. Latch turning brake pedals together.
2. Place a 1 inch thick wood block between the single brake pedal and the brake lock tab (see Figure 29).
3. Remove cotter pins and washers from rear end of both brake rods and loosen jam nuts from clevises.
4. Block the front wheels and raise the rear wheels.
5. Adjust each brake rod in turn by:
 - A. To tighten the brakes, shorten the length of the brake rod by turning it into the clevis.
 - B. To loosen the brakes, make the brake rod longer by turning it away from the clevis.
6. Adjust the brake rods until the disc pads apply a light amount of friction against the rotor.

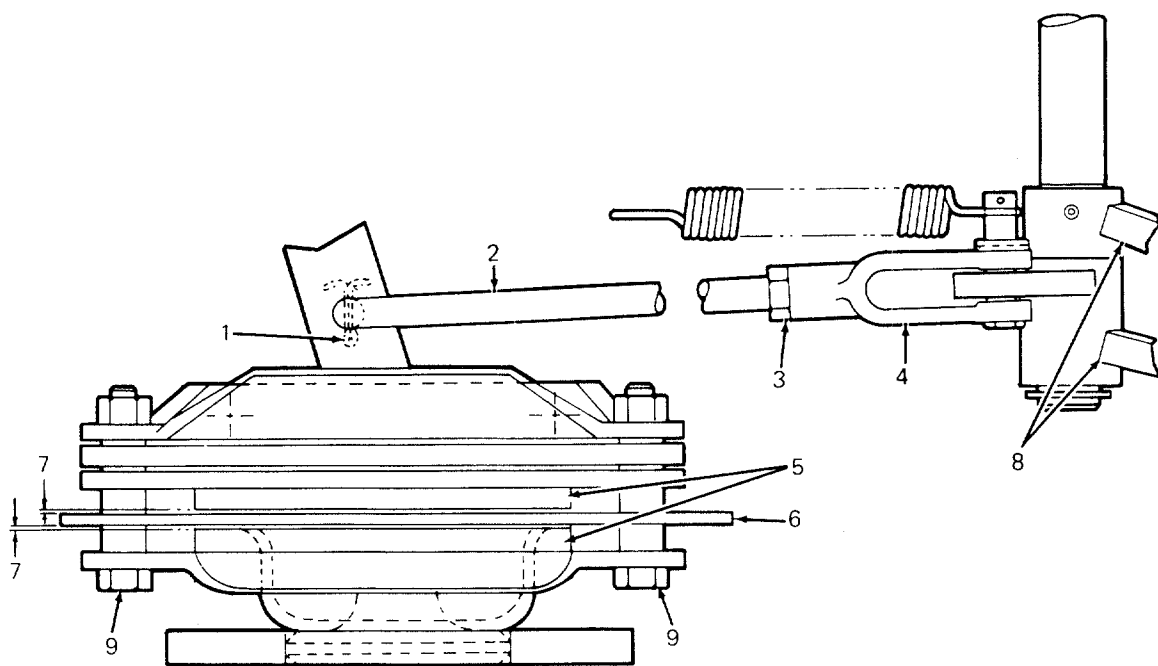


Figure 30. Right Side Shown

1. Cotter Pin and Washer (Both Sides)
2. Brake Rod (Both Sides)
3. Jam Nut (Both Sides)
4. Clevis (Both Sides)
5. Disc Pads (Both Sides)
6. Rotor (Both Sides)
7. Clearance Between Disc Pads and Rotor (Both Sides)
8. Turning Brake Pedal Arms
9. Brake Assembly Mounting Bolts

7. Reinstall cotter pins, washers and tighten jam nuts.
8. Recheck brake adjustment. If the adjustment is correct, remove wood block and lower tractor.
9. With the wood block removed, the brake disc pads must not rub against the brake rotor.

WHEEL ALIGNMENT

The front wheels should toe-in approximately 1/8 inch.

Measure the distances A and B on the front wheels. (See Figure 31.)

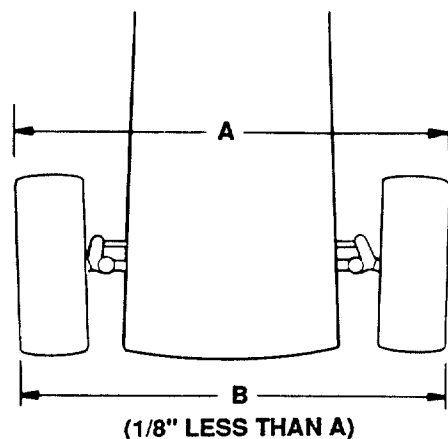


Figure 31



Dimension B should be approximately 1/8 inch less than dimension A.

For adjustments on toe-in, see your authorized *Cub Cadet* dealer.

FRONT WHEEL ADJUSTMENTS

Check the front wheels to ensure that the turning radius of the unit is equal in both directions. Turn the wheels all the way to the left. Measure the angle of

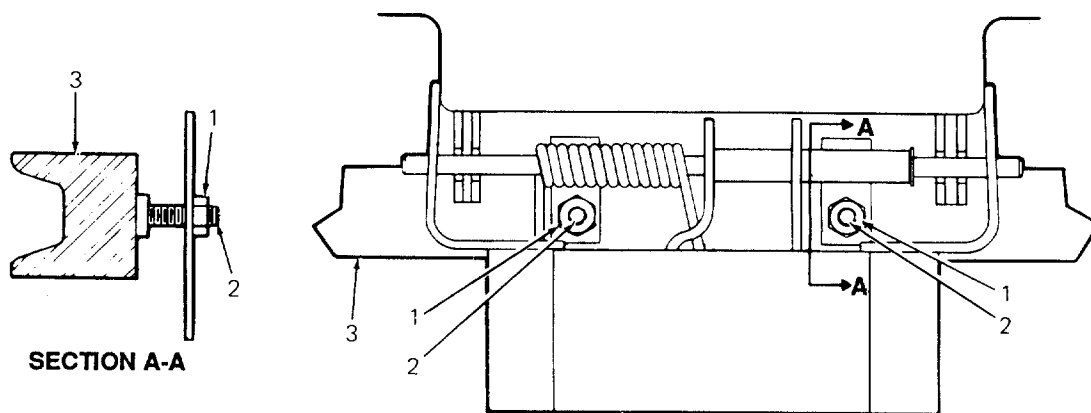


Figure 32

1. Jam Nut
2. Pivot Bar Adjustment Bolts
3. Front Axle

the wheel to the frame. Turn the wheel all the way to the right and repeat the measurement. The angles shall be equal.

NOTE

Power steering components are under hydraulic pressure. If not properly adjusted, serious damage may occur to steering components.

For adjustments on front wheels, see your authorized *Cub Cadet* dealer.

PIVOT BAR ADJUSTMENT BOLTS



CAUTION

The tractor must be checked every 50 hours of tractor operation for play between the front axle and the pivot bar adjustment bolts. The adjustment bolt heads must fit against the front axle. If play is discovered, the pivot bar adjustment bolts must be adjusted.

If play is discovered between the front axle and the pivot bar adjustment bolt heads, adjust both bolts as follows: (See Figure 32.)

1. Loosen jam nut 3 to 4 turns or as required.
2. Turn pivot bar adjustment bolt counterclockwise until it hits against the front axle.
3. Tighten jam nut.
4. Repeat the above steps for the other pivot bar adjustment bolt.

FAN BELT

Fan Belt Tension and Damage

An improperly adjusted fan belt can cause engine overheating. Push on the fan belt at the middle with a finger, and check that it deflects about 0.4 in. (10 mm) [at a load of 22.1 lb. (10 kg)]. Also check the belt for cracks or tears.

Tension Adjustment

Loosen the two bolts holding the alternator, and adjust until proper tension is obtained. Be sure to retighten the nuts and bolts after adjustment. (See Figure 33.)

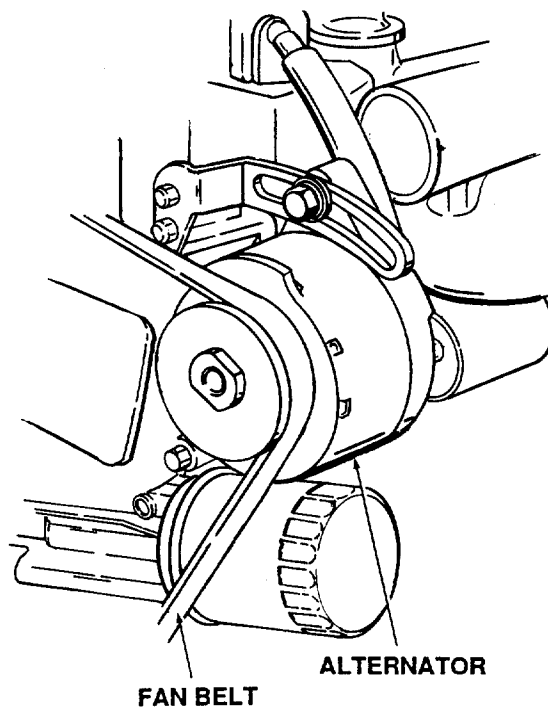


Figure 33

SECTION IV. MAINTENANCE

FUEL

Fuel Level Check and Refueling

Always use light oil diesel fuel. You are required to use recommended diesel fuels only. Do not use alternative fuels, because their quality is unknown and their quality may be inferior. Do not use kerosene, which is very low in cetane rating, and could adversely affect the engine.



WARNING

1. Do not add fuel or alcohol to diesel fuel. This creates a vapor which is extremely explosive.
2. NEVER SMOKE while refueling. Shut off engine and electrical equipment.
3. Never remove the fuel tank cap or fill the fuel tank near an open flame. Do not smoke when working around inflammable fuel.



CAUTION

1. Be sure to use a strainer when filling the fuel tank. Dirt or sand in the fuel will cause fuel injection pump failure.
2. Be careful not to let the fuel tank become empty, or air can enter the fuel system, which will necessitate bleeding before engine will start.
3. Be careful not to spill fuel during refueling. If fuel should spill, wipe it off at once to reduce chance of a fire.



NOTE

Do not fill the tank to its full capacity. Space is required for vapor expansion in the event of a temperature change. A tank filled to capacity may overflow if exposed to a rise in temperature or direct sunlight.

Be sure that the filler cap is tightened securely before starting the engine.

Bleeding the Fuel System

Bleeding the fuel system is required:

1. After the fuel filter and lines have been detached and refitted.

2. After the fuel tank has become empty.
3. Before the tractor is to be used after long storage.

PROCEDURE

1. Fill the fuel tank. Open the fuel shut-off valve. (See Figures 34 and 35.)
2. Loosen air vent plugs of the fuel filter a few turns.

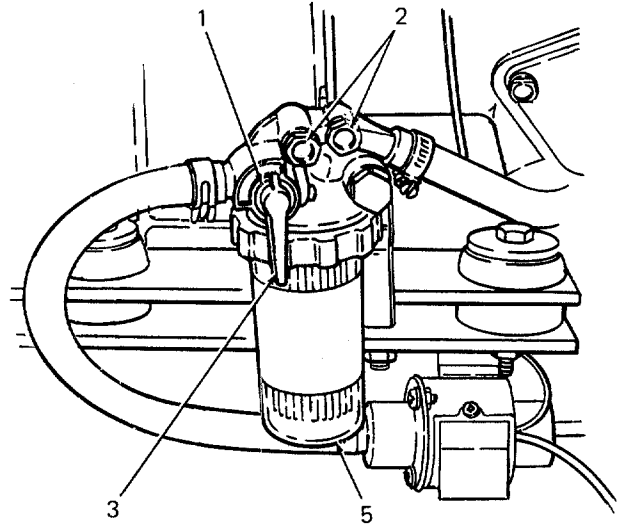


Figure 34

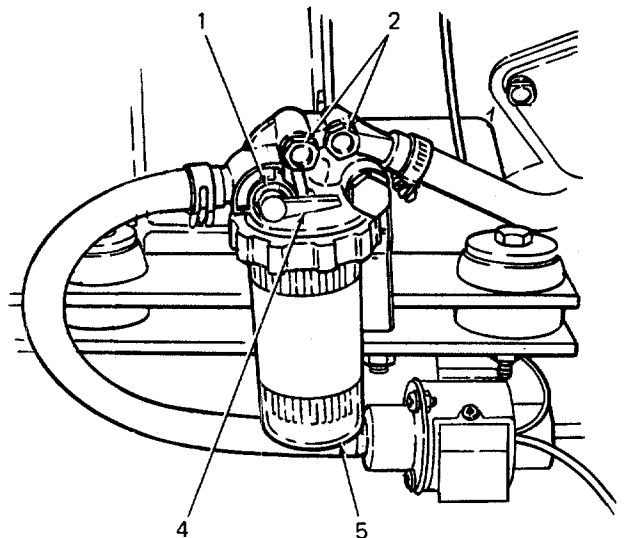


Figure 35

1. Fuel Shut-Off Valve
2. Air Vent Plugs
3. Fuel Shut-Off Valve "ON"
4. Fuel Shut-Off Valve "OFF"
5. Fuel Filter Cup

3. Turn ignition key switch to "ON" position to activate fuel pump.
4. Retighten air vent plugs when air bubbles do not appear anymore.
5. Turn ignition key to "OFF" position.

WARRANTY NOTICE

The warranty on these engines and/or power train components shall not apply to any failure that results from an unauthorized adjustment of the fuel injection system.

Any attempt to increase the engine horsepower by increasing engine r.p.m. above its rated maximum, or by other means, not only affects traveling speeds but affects the life of matching parts and voids the company responsibility as outlined in the warranty.

INJECTION PUMP (Air Bleeding)



CAUTION

Always keep the air vent plug on the fuel injection pump closed except when bleeding system, or it may cause the engine to stop.

If the engine will not start after bleeding the fuel pump, bleed the air further in the system as follows. (See Figure 36.)

1. Loosen the air vent plug.
2. Turn ignition key switch to "ON" position to activate fuel pump.
3. Tighten the air vent plug.

CHECKING THE FUEL LINES



WARNING

Check or replace the fuel lines only after the engine is stopped and is not hot. Broken fuel lines can cause fires.



CAUTION

When the fuel lines are disconnected, plug them at both ends with clean cloth or paper to prevent dirt from entering the lines. Dirt in the lines can cause fuel injection pump malfunction.

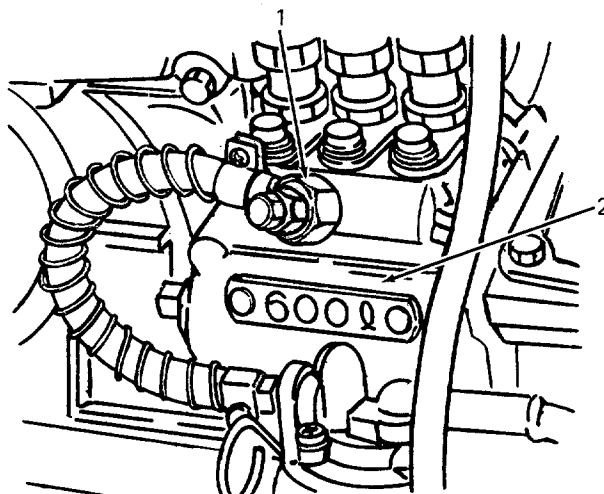


Figure 36

1. Air Vent Plug
2. Injection Pump

Check the fuel lines every 50 hours of operation.

1. The fuel lines deteriorate regardless of amount of use of tractor.
2. Replacement of fuel lines are recommended every 2 years. If the fuel lines and clamps are found worn or damaged before two years, replace or repair immediately.
3. After replacement of the lines and clamps, bleed the fuel system.

CLEANING THE FUEL FILTER CUP



CAUTION

If dust and dirt enter the fuel, the fuel pump and injection nozzle are subject to quick wear. To prevent this, be sure to clean the fuel filter cup periodically.

Clean the fuel filter every 100 hours.

This should not be done in the field, but in a clean place so as to prevent dust intrusion.

1. Close the fuel filter cup shut-off valve. (See Figures 34 and 35.)
2. Unscrew and remove the filter cup, and rinse with kerosene.
3. Take out the filter element and rinse in kerosene.

4. After cleaning, reassemble the fuel filter, keeping out dust and dirt.
5. Bleed the injection pump.

REPLACING THE FUEL PRE-CLEANER ELEMENT

Replace the fuel pre-cleaner element yearly or whenever any debris appears to be accumulating within.

This should not be done in the field, but in a clean place so as to prevent dust intrusion.

1. Close both fuel tank valves.
2. Remove the top and bottom hose clamps and remove and discard the pre-cleaner element. (See Figure 37.)
3. Properly position the new pre-cleaner element and secure the top and bottom hoses with the hose clamps.
4. Open both fuel tank valves.
5. Bleed the injection pump.

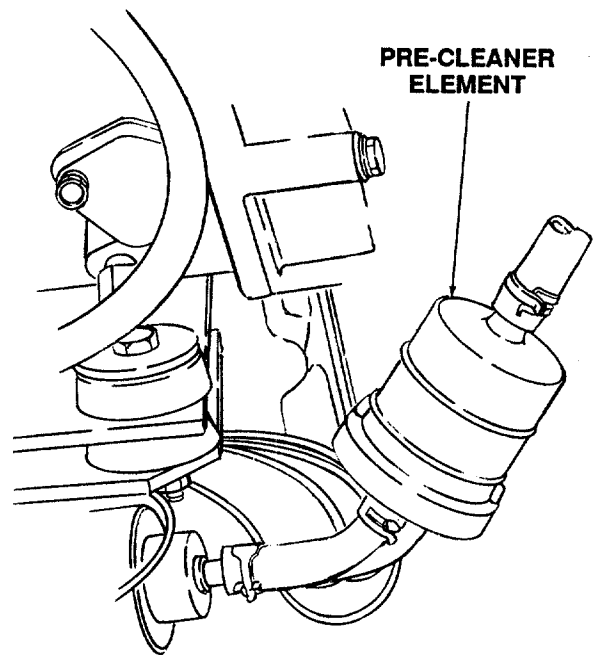


Figure 37

ENGINE OIL

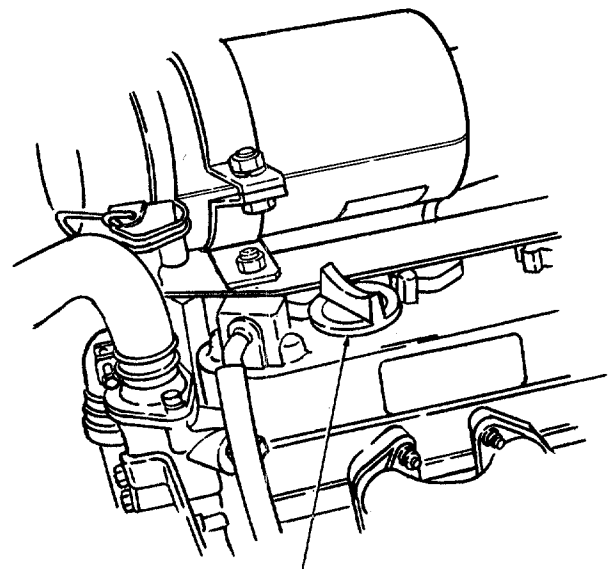
Checking Oil Level and Adding Engine Oil
(See Figures 38 and 39.)



CAUTION

Do not operate the engine with the oil level nearing the lower mark because the oil may deteriorate quickly. Keeping the oil level near the upper mark is recommended (never overfill).

1. Check the engine oil level before starting the engine.
2. Remove the dipstick, wipe clean, reinsert it, take it out again and check the oil level. Oil level should be between the two marks at lower end of dipstick.
3. If the oil level is low, remove the oil port fill plug, and add new oil to the prescribed level.



OIL PORT FILTER PLUG

Figure 38

CHANGING ENGINE OIL



CAUTION

Stop the engine before changing oil.

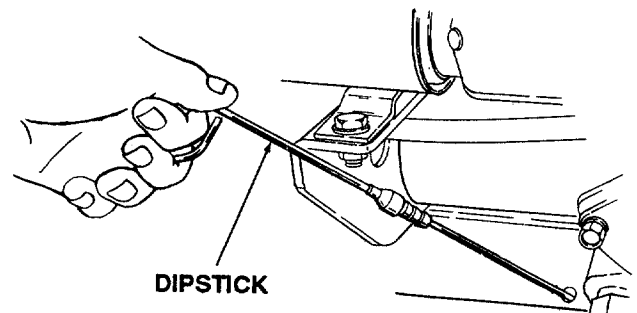


Figure 39

1. Remove the drain plug at the bottom of the engine, and drain all the old oil. Draining oil will be easier and complete if done while the engine is still warm.
2. Replace drain plug and add new engine oil up to the upper mark of the dipstick.
3. Engine should be started, run briefly, stopped and oil level rechecked.

REPLACING THE OIL FILTER CARTRIDGE

(See Figure 40)

The oil filter can be obtained through your *Cub Cadet* dealer under Part Number KB-70000-15241.



CAUTION

Stop the engine before replacing the oil filter cartridge.

Wipe off any excess oil after installing filter.

1. Replace the oil filter cartridge after the first 35 hours. Thereafter, change the oil filter with every other engine oil change.
2. Remove the oil filter cartridge with a filter wrench.
3. Apply a film of clean oil to the gasket of the new cartridge.
4. Screw in the cartridge by hand. When the gasket comes into contact with the seal surface, tighten the cartridge an additional 1/2 turn by hand.
5. After the cartridge has been replaced, the engine oil level drops. Thus, run the engine for a while

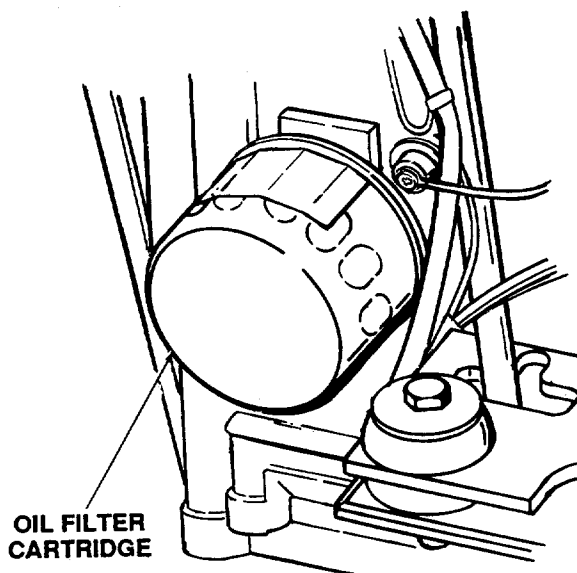


Figure 40

and check for oil leaks around the seal. Recheck the engine oil level. Add oil if necessary.

RECOMMENDED OIL

Use *Cub Cadet* Diesel Engine Oil with viscosity grade according to the following ambient temperature ranges.

Ambient Temperature	Viscosity (Grade CD)
Above 77°F	SAE 30
32°F to 77°F	SAE 20 or 15W-40
Below 32°F	SAE 10 or 10W-30

DO NOT USE: Synthetic oil, non-detergent oil or other non-recommended oils.

DO NOT MIX different brands of oil.

ENGINE OIL CAPACITY—98.4 oz. (approximately 6.2 pints) including oil in oil filter.

OIL CHANGE INTERVALS

	OIL	OIL FILTER
Initial Change	35 hours	35 hours
Normal Change	100 hours	200 hours

ENGINE OIL LEVEL CHECKS

1. Engine oil level should be checked before starting the unit every time.
2. Dipstick markings indicate upper and lower limits at a cold oil condition.
3. Never overfill engine oil.

RADIATOR AND RECOVERY TANK



WARNING

It is dangerous to remove the radiator fill cap when the system is hot. Allow the system to cool and loosen the cap slightly to relieve any excess pressure before removing cap completely.



CAUTION

1. Make it a rule to check the coolant level before every operation.
2. Never use dirty or salt water as coolant.
3. Be sure to securely tighten both radiator pressure cap and recovery tank cap after checking coolant.

4. When coolant is added, coolant level may drop the first time the engine is started. After operating tractor briefly, allow system to cool and recheck coolant level.
5. To drain coolant, always open both coolant cocks located at the crankcase side and at the lower part of the radiator; simultaneously open the radiator cap as well. With the cap tightly closed, a complete drain of coolant is impossible.



The radiator screen must be removed before the radiator pressure cap can be removed. Refer to RADIATOR SCREEN CARE.

Checking Level, Adding and Changing Coolant (See Figure 41)

1. Check that the coolant level in the recovery tank is between the low and high mark.
2. In the event of insufficient coolant, add the proper mixture of water and anti-freeze to the recovery tank so that it shows between the low and high mark. In addition, check two drain cocks at the lower part of the radiator and the side of the crankcase to see if they are securely closed.

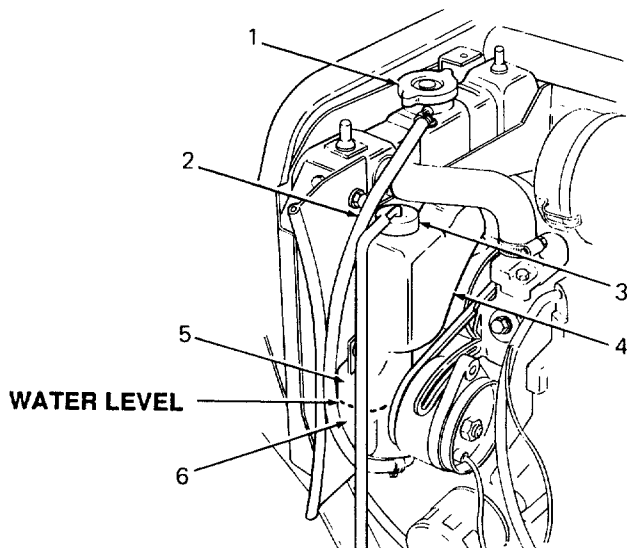


Figure 41

- | | |
|----------------------|----------------------|
| 1. Radiator Cap | 4. Recovery Tank |
| 2. Overflow Hose | 5. "H" Highest Level |
| 3. Recovery Tank Cap | 6. "L" Lowest Level |

Hot Weather Operation

We recommend the use of water with the addition of cooling system conditioner. The boiling point of ethylene glycol solution is higher than that of water, but the ability to transfer heat is less. As a result, the engine will run cooler with conditioned water.

Cold Weather Operation

We recommend the use of antifreeze with a correct mixture ratio to protect the coolant to the lowest anticipated temperature.

RADIATOR COOLANT MIXTURE

Total coolant - 1 U.S. gallon (8 pints).

Coolant consists of 50-50 mixture - 2 quarts water, 2 quarts antifreeze (ethylene glycol).



Water and antifreeze must be mixed prior to filling radiator.

RADIATOR SCREEN CARE



WARNING

Do not service the radiator screen when the engine is running.



CAUTION

Do not operate tractor without radiator screen in place.



Radiator screen must be cleaned more frequently in dusty and high grass cutting conditions. This is to prevent overheating of the engine.

To remove the radiator screen, lift the hood and remove the wing nut and washer from the upper rear corner of the right side panel. Pull outward on the

side panel slightly, grasp the top of the screen and pull it up and out. Flush off any accumulated grass or debris. Reinsert screen after cleaning. (See Figure 42.)



CAUTION

Radiator screen must be cleaned before each use and kept free of debris.

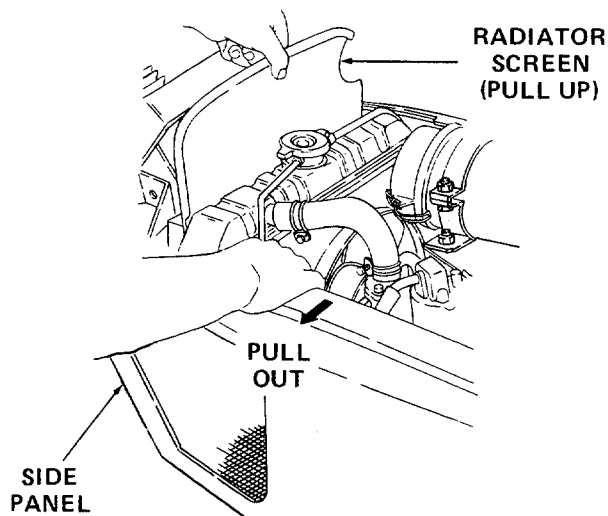


Figure 42

AIR CLEANER

(See Figures 43, 44 and 45)

1. The element of the air cleaner on this engine is dry type. Never apply oil to it.

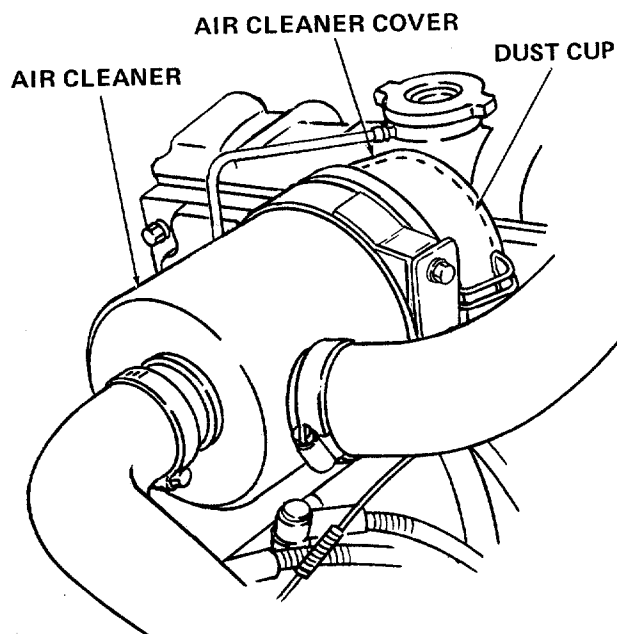


Figure 43

2. Remove and clean out the dust cup every day if the work surroundings are dusty. Never allow dust cup to become half full with dust. (See Figure 44.)
3. Avoid removing the element except when cleaning. To remove the element, first remove wing nut by turning counterclockwise. (See Figure 45.)
4. To clean the element, use clean dry compressed air on the inside of the element. Maintain reasonable distance between the nozzle and the filter. Air pressure at the nozzle must not exceed 100 psi (7 kgf/cm, 690 kpa).

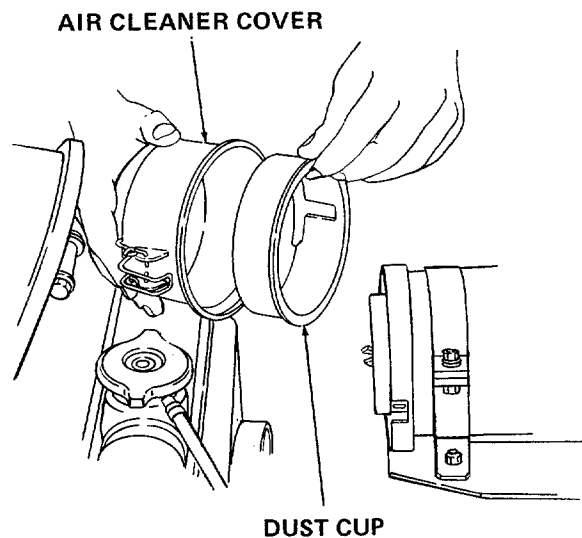


Figure 44

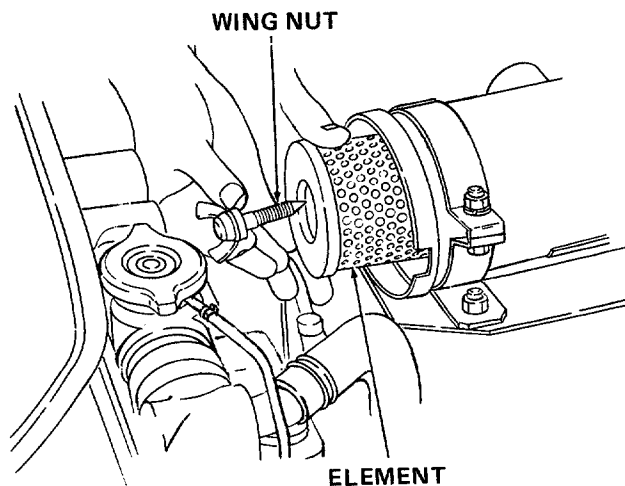


Figure 45

5. When carbon or oil adheres to the element, soak the element in a mixture of 2 oz. detergent dissolved in 1 gallon of water for 15 minutes, then wash it several times in water, rinse with clean water and air dry completely. After element is fully dried, inspect inside of the element with a light and check if it is damaged. (Refer to the instruction on the label attached to the element.)
6. Replace the element every year or after every six cleanings.

IMPORTANT

Install the dust cup with the keyed edge towards the left side of tractor. If the dust cup is mounted incorrectly, dust or dirt does not collect in the cup, and dust will cause severe engine damage.

HYDROSTATIC DRIVE HYDRAULIC FLUID FILTER

NOTE

Clean the outside area before removing the filter to keep dirt from getting into the transmission case. If a mower is mounted on the tractor, the mower must be lowered to facilitate removal of the filter.

Remove the throw-away-can-type filter and replace with a new filter after the first 10 and 50 hours of operation, and every 100 hours of operation thereafter. The filters can be obtained through your *Cub Cadet* Dealer under part number 723-3014.

To remove the filter, turn the filter counterclockwise using an automotive-type filter wrench.

Before installing the new filter, apply a coating of clean oil on the filter gasket. Thread the new filter on by hand until tight enough to seat the gasket. Loosen the filter. Then turn it until the gasket contacts the base. Tighten the filter an additional 1/2 turn. Start engine and allow it to run for a few minutes. Shut engine off and check for leaks; check oil level in transmission case.

LIGHTS

Refer to "SPECIFICATIONS" when replacement of headlight or taillight bulb is necessary.



WARNING

Do not change headlights when hot or when engine is hot.

NOTE

Prior removal of battery will ease removal and replacement of headlights.

To replace a headlight, refer to Figure 46 and remove pan head screws and ring that retain the sealed beam units.

To replace a taillight bulb, remove socket from the back of the taillight by rotating socket 1/4 turn. Remove old bulb from socket and install new bulb. Replace socket into taillight and turn to lock in place.

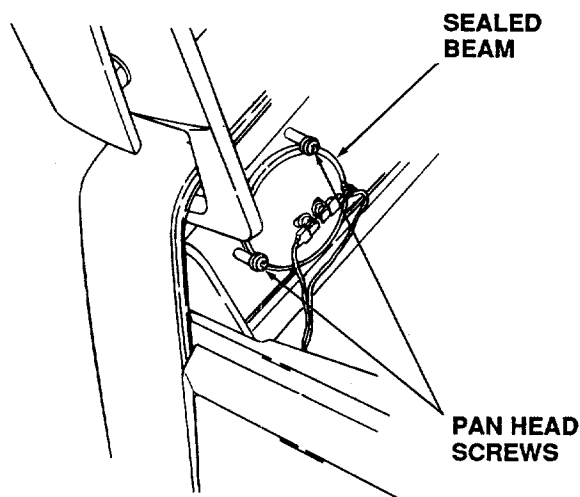


Figure 46

To replace dash indicator lights, remove socket from the back of the dash panel by rotating socket 1/4 turn. Pull old bulb from socket and install new bulb. Replace socket into dash panel and turn to lock in place.

FUSES

Always use the proper capacity fuse for replacement. Refer to "SPECIFICATIONS." If electrical system malfunctions, check the fuses.



CAUTION

LEFT side fuse is 20 amp only. RIGHT side fuse is 30 amp only.

To replace a fuse, pull the old fuse from the fuse housing and install a new fuse. (Refer to Figure 10.)

BATTERY INFORMATION



WARNING

- A. Battery acid must be handled with great care as contact with it can burn and blister the skin. It is also advisable to wear protective clothing (goggles, rubber gloves and apron) when working with it.*
- B. Should battery acid accidentally splatter into the eyes or onto the face, rinse the affected area immediately with clean cold water. If there is any further discomfort, seek prompt medical attention.
- C. If acid spills on clothing, first dilute it with clean water, then neutralize with a solution of ammonia/water or baking soda/water.
- D. Since battery acid is corrosive, do not pour it into any sink or drain. Before discarding empty electrolyte containers, rinse them with a neutralizing solution.
- E. NEVER connect or disconnect charger clips to battery while charger is turned on as it can cause sparks.
- F. Keep all lighted materials (cigarettes, matches, lighters) away from the battery as the hydrogen gas generated during charging can be combustible.
- G. As a further precaution, only charge the battery in a well-ventilated area.

***Always shield eyes and protect skin and clothing when working near batteries.**



DANGER

BATTERIES CONTAIN SULFURIC ACID AND MAY CONTAIN EXPLOSIVE GASES (when electrolyte has been added).

KEEP BATTERIES OUT OF THE REACH OF CHILDREN.

MAINTENANCE OF BATTERY

1. Check electrolyte level periodically (at least every two weeks). Keep the level to the split rings. Use only distilled water or a good quality drinking water. Never add acid or any other chemicals to the battery after initial activation.
2. The battery should be checked with a hydrometer after every 25 hours of operation. If the specific

gravity is less than 1.225, the battery should be recharged. Maximum charge rate 5 amps.

3. Coat the terminals and exposed wire with a thin coat of grease or petroleum jelly for longer service and protection against corrosion.
4. The battery should be kept clean. Any deposits of acid should be neutralized with baking soda and water. Be careful not to get this solution in the cells.
5. Avoid tipping the battery. Even a "sealed" battery will leak electrolyte when tipped.

STORAGE OF THE BATTERY

1. When storing battery for extended periods, disconnect battery cables. Removing battery from unit is recommended.
2. Keep the exterior of the battery clean, especially the top. A dirty battery must be stored with a full charge. A dirty battery will discharge itself.
3. Check the battery with a hydrometer. The battery must be stored with a full charge. A discharged battery will freeze.

Specific Gravity

Freezing Point

1.265	-71°F
1.250	-62°F
1.200	-16°F
1.150	5°F
1.100	16°F



NOTE

All batteries discharge during storage.

4. Recharge battery whenever the specific gravity is less than 1.225, before returning to service or every two months, whichever comes first.

COMMON CAUSES FOR BATTERY FAILURE

1. Overcharging
2. Undercharging
3. Lack of water
4. Loose hold downs and/or corroded connections
5. Excessive loads
6. Battery electrolyte substitutes
7. Freezing of electrolyte



NOTE

These failures do not constitute warranty.

BATTERY REMOVAL OR INSTALLATION



WARNING

When removing the battery, follow this order of disassembly to prevent your wrench from shorting against the frame.

Battery removal:

1. Remove the Negative cable.
2. Remove the Positive cable.

Battery installation:

1. Attach the Positive cable.
2. Attach the Negative cable.

JUMP STARTING



WARNING

Failure to use this starting procedure could cause sparking, and the gases in either battery could explode.

1. Attach the first jumper cable from the positive terminal of the good battery to the positive terminal of the dead battery.
2. Attach the second jumper cable from the negative terminal of the good battery to the FRAME OF THE UNIT WITH THE DEAD BATTERY.

TIRES

Keep the pneumatic tires properly inflated. Overinflation will cause operator discomfort. Underinflation will cause short tire life.

Inflate the front and rear tires for normal or heavy load operations as shown in the following table:

Tire Size	Pounds per Square Inch
Front Tires 18x8.50-8	12
Rear Tires 26x12.00-12	12

Always see that the tire valve caps are in place and tightened securely to prevent loss of air and protect the valve core and stem.

Do not overload the tractor tires by mounting equipment on the tractor which exceeds the load capacity of the size of the tires on the tractor.

MOUNTING TIRES ON THE RIM



WARNING

Do not mount a tire unless you have the proper equipment. DO not inflate tire above the recommended pressure. Do not stand in front or of over the tire assembly when inflating. Explosive separation of tire and rim can cause injury or death.

After mounting a new or old tire on the rim, inflate it to 20 pounds pressure to seat the tire bead on the rim flange. Then deflate the tire to the correct operating pressure.



NOTE

After the first 10 hours of operation, check and retorque the wheel lug nuts (both sides) to 35 ft-lbs. to make sure they have seated properly.

SECTION V. OFF-SEASON STORAGE



CAUTION

Diesel fuel stabilizer should be added to the fuel in the fuel tank when storing the tractor for a period longer than 30 days.

If the machine is to be inoperative for a period longer than 30 days, the following procedures are recommended:

1. Clean the engine and the entire tractor thoroughly.
2. Lubricate all lubrication points.
3. Follow battery storage instructions on page 30.
4. Protect tires and seat from sunlight. Inflate tires at regular intervals.

SECTION VI. MOWING

MOWING



WARNING

To avoid possible injury, do not allow anyone in the area opposite the discharge chute while mowing. Although the area has been supposedly cleared of foreign objects, small objects may be discharged by the mower.



WARNING

Never direct discharge of material toward bystanders or allow anyone near the machine while in operation.

For best results it is recommended that the first two laps should be cut with the discharge thrown towards the center. After the first two laps, reverse the direction to throw the discharge to the outside for the balance of cutting. This will give a better appearance to the lawn.

Do not cut the grass too short, as the mower will tend to scalp the grass. Short grass invites weed growth and yellows quickly in dry weather.

Mowing should be done with the engine at full throttle. Do not mow at high ground speed.

During certain times of the year and under some conditions, the mower may leave streaks of uncut material.

Streaking may occur when attempting to mow heavy weeds and tall grass. Under these conditions it may be necessary to go back over the cut area a second time to get a clean cut.

The following practices will help eliminate streaking:

1. Mow the area more often so the grass doesn't get too tall and heavy.
2. Operate the tractor at full throttle and lower forward speeds.
3. Keep the blades sharp and replace blades when worn.
4. Follow the mowing procedure shown in Figure 47.

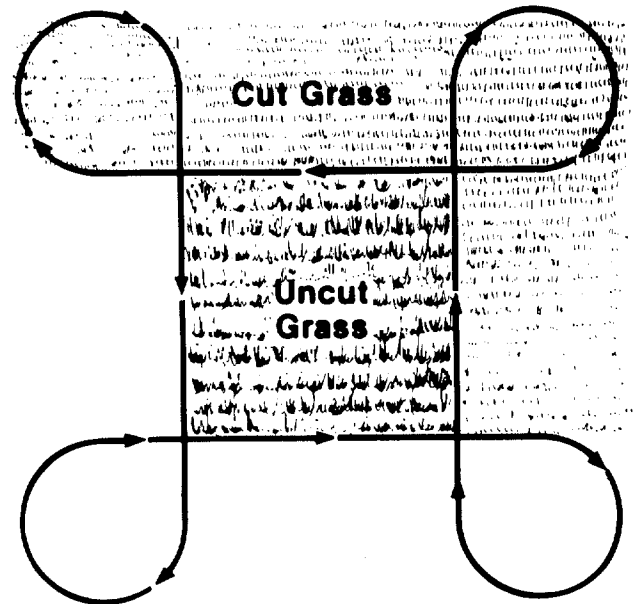


Figure 47

OPTIONAL EQUIPMENT AND ACCESSORIES

When you purchased your tractor, you probably had it completely equipped for your particular needs at the time. However, later you may wish to obtain optional equipment or accessories. These items and other allied equipment can be purchased from, and installed by, your authorized dealer.

The tractor is used for so many different types of work, and because it is called on to operate under so many different conditions, a variety of equipment is available to adapt it to the requirements of the user. **Refer to attachment guide for a complete description of equipment and required components that can be utilized with your tractor.**

MAINTENANCE CHART

Operation to be performed	Before each use	10 hours or once a month	35 hours three times a season	50 hours or twice a season	100 hours or yearly	Before storage
Clean grille insert (front & backside)		More often under dirty conditions X				
Check engine oil level	X					
Fill fuel tank	X					
Change engine oil			1st time & more often under dirty conditions		X	X
Change engine oil filter			1st time Thereafter change with every other engine oil change			
Check transmission oil level	X					
Replace transmission oil filter		After 1st 10 hours X		After 1st 50 hours X	Every 100 hours there-after	
Check battery electrolyte level		X				
Grease front axle pivot bolt		X				
Lubricate steering knuckles (2) & steering arm		X				X
Retorque rear wheel lug bolts		After 1st 10 hours X				
Lubricate brake shaft			X			
Grease turning brake pedal – RH			X			
Service air cleaner, element & dust cup	Dust Cup X				Air Cleaner Element More often under dirty conditions	
Lubricate speed control linkage cam plates					X	X
Lubricate drive shaft					X	
Lubricate lift shaft			X			
Grease front wheel bearings			X			
Radiator coolant level	X					X
Radiator screen	X					
Pivot bar adjusting bolt				X or when loose		



Maintenance information for optional equipment may be found in the manual which is included with the specific piece of optional equipment.

TROUBLE SHOOTING

Possible Cause

Possible Remedy

WHEN ENGINE IS DIFFICULT TO START

Fuel is thick and doesn't flow	Check if fuel shut-off valves are open. Check the fuel tank and fuel filters. Remove water, dirt and other impurities. Clean fuel filter with kerosene.
Air or water mixed in fuel system	If air is in the fuel filter or injection lines, the fuel pump will not work properly. To attain proper fuel injection pressure, check carefully for loosened fuel line coupling, loose cap nut, etc. Loosen air vent screws on base of fuel filter and fuel injection pump to eliminate all the air in the fuel oil system. Bleed fuel system, see maintenance section.
Thick carbon deposits on orifice of injection nozzle	This is caused when water or dirt is mixed in the fuel. Clean the nozzle injection piece, being careful not to damage the orifice.* Check to see if nozzle is working properly or not. If not, install a new nozzle.*
Valve clearance is wrong	Adjust valve clearance to 0.0057-0.0073 in. (0.145-0.185 mm) when the engine is cold.*
Leaking valves	Grind valve.*
Fuel injection timing is wrong	Adjust injection timing. The injection timing is 21.5° (0.375 rad) before top dead center.*
Engine oil becomes thick in cold weather and engine cranks slow	Change grade of oil according to the weather (temperature).
Low compression	Bad valve or excessive wear of rings, pistons and liners cause insufficient compression. Replace with new parts.*
Battery is discharged and the engine will not crank	Charge or replace battery. Refer to battery section.

INSUFFICIENT H.P. OUTPUT

Carbon struck orifice of nozzle piece	Clean orifice and needle valve, being very careful not to damage the nozzle orifice. Check nozzle to see if good. If not replace with new parts.*
Compression is insufficient. Leaking valves	Bad valve and excessive wear of rings, pistons and liners cause insufficient compression. Replace with new parts. Grind valves.*
Insufficient fuel to engine	Check fuel system.
Overheating of moving parts	Clean grille insert, side panels, radiator screen and radiator. Check oil level. Check for proper coolant level. Check to see if lube oil filter is working properly.* Check engine timing. Adjust timing 21.5° (0.375 rad) before top dead center.*
Valves out of adjustment	Adjust to proper valve clearance of 0.0057-0.0073 in. (0.145-0.185 mm) with engine cold.*

*See your authorized dealer.

TROUBLE SHOOTING

Possible Cause	Possible Remedy
Air cleaner element is dirty	Clean or replace with new element every 100 hours of operation.
Fuel injection pressure is incorrect	Adjust to proper pressure of 1991 psi (140 kgf/cm ² 13.7 MPa).*
Injection pump wear	*(Do not use poor quality fuel for it will cause wear of the pump. Only use No. 2 D diesel fuel. Check the fuel injection pump element and delivery valve assembly and replace as necessary.)

WHEN ENGINE SUDDENLY STOPS

Fuel leak	Check the fuel level in tank and refill if necessary. Also check the fuel system for air or leaks.
Bad nozzle	If necessary, replace with a new nozzle.*
Moving parts are overheated due to shortage of lube oil or improper lubrication	Check engine level. Check to see if element inside the lubricating oil filter has become old and clogged. If necessary, replace with new element.

WHEN COLOR OF EXHAUST IS ESPECIALLY BAD

NOTE: When engine is operating properly, the exhaust is nearly colorless.

Fuel governing device bad	Contact dealer for repairs.*
Fuel is of extremely poor quality	Select good quality fuel oil. No. 2-D diesel only.
Nozzle is bad	If necessary replace with new nozzle.*
Combustion is incomplete	Cause is poor atomization, improper injection timing, etc. because of trouble in injection system or in poor valve adjustment, or compression leakage, poor compression, etc. Check for the cause.*

ENGINE MUST BE STOPPED IMMEDIATELY IF ANY ONE OF THE FOLLOWING CONDITIONS APPLY

Speed suddenly decreases or increases	Check the adjustments and timing of injection and fuel system.*
Unusual sound is heard suddenly	Check all moving parts carefully.
Color of exhaust suddenly turns dark	Check the fuel injection system, especially the fuel injection nozzle.*
Bearing parts are overheated	Check the oil level.
Oil lamp lights up during operation	Check oil level. Check the function of the regulating valve inside of oil filter.* Check pressure switch.* Check filter base gasket for leaks.

PTO CLUTCH WILL NOT ENGAGE

Low or zero voltage	Check battery. Charge or replace. Check charging system. Check for worn or broken wiring or connections. Check clutch coil resistance. Check switch.
Rotor/armature air gap too large	Rotor/armature worn. Adjust air gap.

*See your authorized dealer.

LUBRICATION TABLE

Point of Lubrication	Check at Hours	Change at Hours	Capacity	Anticipated Air Temperature		
				Above +77°F	+32°F to 77°F	Below 32°F
Engine crankcase	Check before each use	35 and 100	Approx. 3.4 qts including oil in oil filter	Engine Oil SAE-30 Grade CD	Engine Oil SAE-20 or SAE-15W-40 Grade CD	Engine Oil SAE-10 or SAE-10W-40 Grade CD
Hydro-drive unit mounted on transmission case with filter	Check before each use	Add as needed	Approx. 14 pints	Cub Cadet Hydraulic Transmission Fluid NOTE: <i>Cub Cadet</i> hydraulic transmission fluid meets IH B-6 specifications. If fluid is used that does not meet these requirements, <i>Cub Cadet</i> will not be responsible for substandard performance. Failures due to use of improper fluid are not covered by warranty. For maximum protection, use <i>Cub Cadet</i> Hydraulic Transmission Fluid.		
Steering knuckles & front axle pivot bolt	10			Use 251H EP grease or equivalent No. 2 multi-purpose lithium grease and apply two or three strokes or sufficient grease to flush out old grease and dirt.		
Front wheel bearings	35			Two or three strokes minimum of the lubricator using 251H EP grease or equivalent No. 2 multi-purpose lithium grease.		
Lift shaft	35			Two strokes of the lubricator using 251H EP grease or equivalent No. 2 multi-purpose lithium grease.		
Drive shaft	100			CV-joint grease or Polyrex grease Part No. 737-3023 – use sufficient amount to make rubber boot coupling swell.		

LUBRICATION GUIDE



WARNING

Prolonged or repeated skin contact with used motor oil may be harmful. Wash skin with soap and water.

The life of any machine depends upon the care it is given. Proper lubrication is a very important part of that care.

Be certain that all lubrication fittings are assembled in place, using the lubrication illustrations as a guide.

Always lubricate the tractor thoroughly before taking it to the field. Use a pressure lubricating gun.

Be sure all fittings are free from dirt and paint so the lubricant is certain to enter the bearing.

Always force the lubricant through the full length of each bearing until it emerges at the end, carrying with it the worn lubricant and any dirt that may have entered the bearing.

Miscellaneous working parts not provided with lubrication fittings should be oiled daily with a good grade of lubricating oil.

Lubricant is cheap. Use plenty of it. Worn parts can be expensive to replace.

Keep your supply of lubricating oil and grease stored in clean containers, and covered to protect from dust and dirt.

Keep the lubricating gun nozzle clean and wipe dirt from grease fittings before lubricating.

The symbols in the illustration indicate the method of application and the hourly intervals to apply the lubricant.



Use a pressure lubricating gun and apply 251H EP grease (or equivalent No. 2 multi-purpose lithium grease) sufficient to flush out the old grease and dirt. Lubricate at hourly intervals indicated on symbols.



Dipstick, use to check engine oil before each use.

LUBRICATION GUIDE

—Before Each Use

1. Engine filler cap and dipstick

Check the oil (with the engine stopped) and add sufficient new oil to bring it to the "FULL" mark on the dipstick. Do not overfill. Do not operate the engine if the oil level is below the "LOW" mark on the dipstick.

—After Every 10 Hours of Operation

2. Steering knuckles (2)
(Both sides)
3. Transmission oil filter

Use 251H EP grease or equivalent No. 2 multi-purpose lithium grease and apply sufficient grease to flush out old grease and dirt.

NOTE: After the first 10 hours only, remove the transmission oil filter and replace with a new filter. Refer to "MAINTENANCE." Change the transmission oil filter after 50 hours and every 100 hours of operation thereafter.

4. Front axle pivot bolt
(Right side)

Use 251H EP grease or equivalent No. 2 multi-purpose lithium grease and apply sufficient grease to flush out old grease and dirt.

NOTE: It may be necessary to rotate the front axle to reach the grease fitting.

—After Every 30 Hours of Operation

5. Transmission oil level and fill tube

Check the oil with the engine stopped. Keep the lubricant up to "FULL" mark on dipstick.

NOTE: Transmission oil level and fill tube also services the following:

1. Hydrostatic transmission
2. Rear axle
3. Hydraulic lift system
4. Power steering

—After Every 35 Hours of Operation

6. Turning brake pedal -
RH
7. Front wheel bearings
8. Engine oil drain plug
and oil filter

Use 251H EP grease or equivalent No. 2 multi-purpose lithium grease and apply sufficient grease to flush out old grease and dirt.

Two or three strokes minimum of the lubricator using 251H EP grease or equivalent No. 2 multi-purpose lithium grease.

NOTE: After first 35 hours, while the engine oil is warm, remove the drain plug and oil filter, and drain all of the oil from the crankcase. Replace the drain plug. Refer to "MAINTENANCE," "FILLING THE CRANKCASE" & "OIL FILTER" for proper oil filling procedure. Refer to "LUBRICATION TABLE" for the proper quantity and viscosity to use.

9. Lift shaft

Two or three strokes minimum of the lubricator using 251H EP grease or equivalent No. 2 multi-purpose lithium grease.

—After Every 50 Hours of Operation

10. Transmission oil filter

NOTE: After the first 50 hours only, remove the transmission oil filter and replace with a new filter. Refer to "MAINTENANCE." Change the transmission oil filter every 100 hours of operation thereafter.

—Every 100 Hours of Operation

11. Transmission oil filter

Change the transmission oil filter and replace with a new filter. Refer to "MAINTENANCE."

12. Engine oil drain plug

While the engine oil is warm, remove the drain plug and drain all of the oil from the crankcase. Replace the drain plug. Refer to "MAINTENANCE" and "FILLING THE CRANKCASE" for proper oil filling procedure. Refer to "LUBRICATION TABLE" for the proper quantity and viscosity to use.

13. Drive shaft

CV-joint grease or Polyrex grease Part No. 737-3023 – use a sufficient amount of clean grease until the rubber boot coupling starts to swell.

LUBRICATION GUIDE

Speed Control Linkage

14. Cam plates

Once a year, apply a small amount of 251H EP grease or equivalent No. 2 multi-purpose lithium grease in the slots.

Miscellaneous

Brake pedal shaft

Lubricate the brake pedal shaft and linkage with eight or ten drops of engine oil.

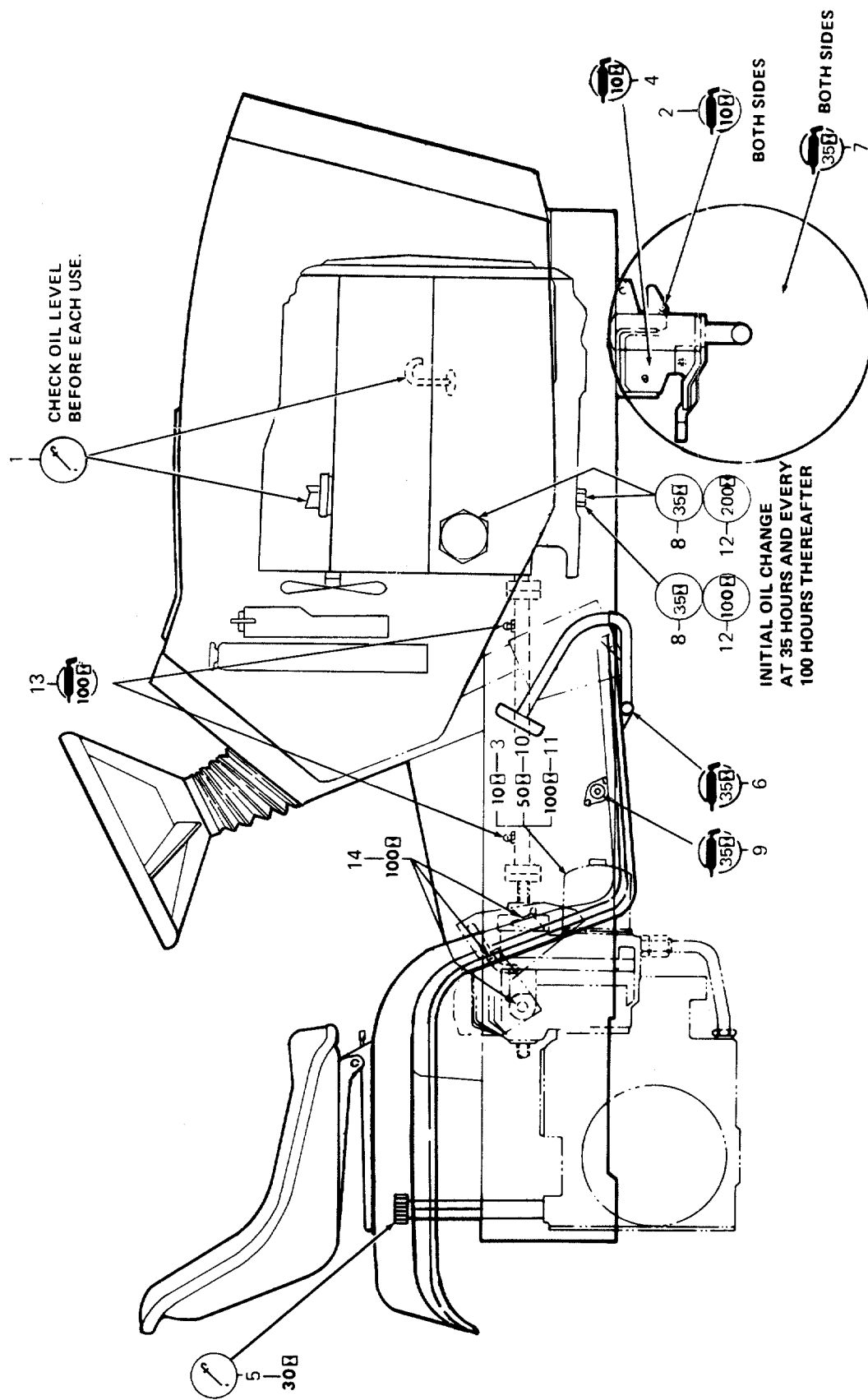
—After Every 200 Hours of Operation

Engine oil drain plug
and oil filter

While the engine oil is warm, remove the drain plug and oil filter and drain all of the oil from the crankcase. Replace the drain plug. Refer to **"MAINTENANCE," "FILLING THE CRANKCASE" & "OIL FILTER"** for proper oil filling procedure. Refer to **"LUBRICATION TABLE"** for the proper quantity and viscosity to use.



Lubrication information for optional equipment may be found in the manual which is included with the specific piece of optional equipment.



SPECIFICATIONS

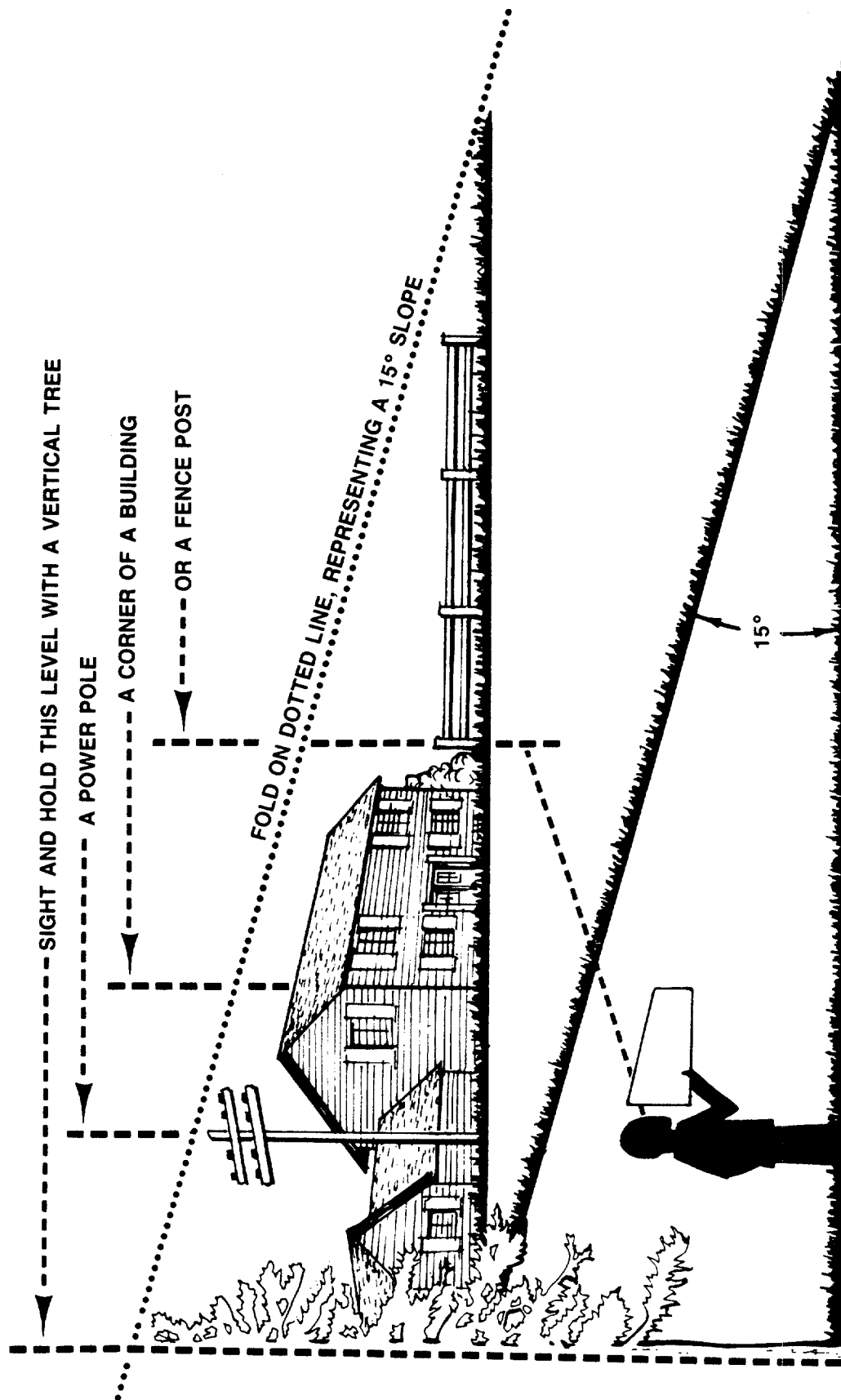
	1782
CAPACITIES	
Fuel tank	5 gals.
Crankcase (approximately)	6.2 pts. including oil in filter
Transmission case with hydro-drive unit mounted (approx.)..	7 qts.
Cooling capacity	1 gallon (2 quarts water, 2 quarts anti-freeze) [ethylene glycol]
HYDROSTATIC DRIVE	
Speed: Forward	0 to 8.64 mpg (0 to 13.824 Km/h)
Reverse	0 to 4.25 mph (0 to 6.800 Km/h)
ENGINE	
Make and model	Kubota
Horsepower	17 HP
Cylinders	3
Bore	2.60 in.
Stroke	2.45 in.
Displacement (cubic inches)	38.93 in.
ELECTRICAL SYSTEM	
System voltage	12 volt neg. ground
Battery	725-3174
Alternator	15 amp
Fuse (auto type)	20 amp (left side only) 30 amp (right side only)
Headlight	725-0222
Taillight	Lamp No. 194
BRAKES	Dual disc, external
TIRE SIZES	
Front	18 x 8.50-8
Rear	26 x 12.00-12
DIMENSIONS	
Tread:	
Front with 18 x 8.50-8 tires	33.0 in.
Rear with 26 x 12.00-12 tires	31.5 in.
Wheelbase	51.6 in.
Length, over-all	78.5 in.
Width, over-all	43.5 in.
Height, over-all (to top of steering wheel)	47.5 in.
Ground clearance	7.6 in.
Turning radius	36.0 in.

Specifications are subject to change without notice.

USE THIS SHEET AS A GUIDE TO DETERMINE SLOPES WHERE YOU MAY NOT OPERATE SAFELY.

SLOPE GAUGE

(Keep this sheet in a safe place for future reference.)

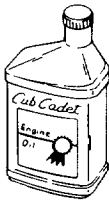
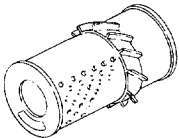
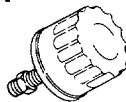
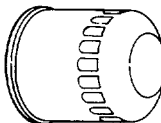
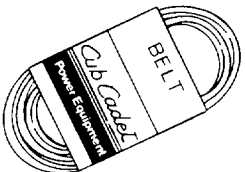
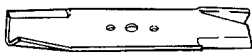


Do not mow on inclines with a slope in excess of 15 degrees (a rise of approximately 2½ feet every 10 feet). A riding mower could overturn and cause serious injury. If operating a walk-behind mower on such a slope, it is extremely difficult to maintain your footing and you could slip, resulting in serious injury.

Operate RIDING mowers up and down slopes, never across the face of slopes.

Operate WALK-BEHIND mowers across the face of slopes, never up and down slopes.

MAINTENANCE PARTS CHART

MODEL 1782		SUPER GARDEN TRACTOR 17 HP KUBOTA			
ENGINE OIL 		Engine Oil Requirements approx. . . . 6.2 pints		Part No.	
		Cub Cadet #1 diesel oil Ambient temperature viscosity (Grade CD) 77°F and above SAE 30W 32°F to 77°F SAE 20W or SAE 15W40 32°F to 0°F SAE 10W or SAE 10W40		737-3032 737-3031 (10W)	
AIR FILTER  CARTRIDGE		Air Filter Requirements		Part No.	
		Clean air filter per instructions in your owner's manual under maintenance air cleaner.		Cartridge KB-70000-11221	
ENGINE OIL FILTER 		Engine Oil Filter Requirements		Part No.	
		Change every 200 hours		KB-70000-15241	
HYDRAULIC OIL FILTER 		Oil Filter Requirements		Part No.	
		Change every 100 hours		723-3014	
HYDRAULIC OIL 		Hydraulic Oil Requirements approx. . . . 7 qts		Part No.	
		Check before each use 1 quart 5 quarts		737-3025 737-3026	
BELTS 		Deck Blade Belt		Tractor to Deck Belt	
		Model	Part No.	Model	Part No.
		46" Deck	754-3039	46" Deck	754-3055
		48" Deck	754-3053	48" Deck	754-3047
		54" Deck	754-3045	54" Deck	754-3047
		60" Deck	754-3052	60" Deck	754-3051
BLADES 		Original Equipment Blade		Hard Coated Blade	
		Size	Part No.	Size	Part No.
		46"	742-3015 Center (1) 742-3016 Outer (2)		
		48"	742-3019 (3)	48"	759-3677 (3)
		54"	742-3013 (3)	54"	759-3597 (3)
		60"	759-3411 (3)	60"	759-3412 (3)
Hi-Lift Blade		Bagging Blade		Hard Coated Bagging Blade	
Size	Part No.	Size	Part No.	Size	Part No.
48"	742-3025 (3)	46"	742-3010 Center (1) 742-3011 Outer (2)	46"	759-3398 Center (1) 759-3397 Outer (2)